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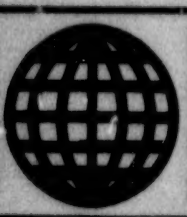


FOREIGN BROADCAST INFORMATION SERVICE

JPRS Report

Environmental Issues

Environmental Issues

JPRS-TEN-94-006 *8 March 1994*

CONTENTS

SOUTH AFRICA

ANC Says Government Importing Mercury Waste

MB1702092894 Johannesburg SAPA in English 2230 GMT 16 Feb 94

[Text] Cape Town Feb 16 SAPA—The African National Congress [ANC] and environment watchdog Earthlife Africa have accused the government of ignoring its own ban on the importation of toxic waste by sanctioning further shipments of mercury waste to the Thor Chemicals company in Cato Ridge, Natal.

ANC environment spokesman Prof. Stan Sangweni also called on the Department of Environment to turn back a container-load of 160 barrels of mercury waste due in Durban on Monday. The waste is being transported by the Safmarine vessel Agulhas from Borden Chemicals and Plastics in the United States.

Former Environment Minister Gert Kotze announced in 1990 that the government had banned the importation of hazardous wastes into South Africa. However, the government subsequently sanctioned importation of "spent chemicals" by Thor for recycling on condition the wastes originated from Thor companies.

According to Earthlife Africa spokesman Chris Albertyn, the Department of National Health also sanctioned further imports of mercury waste from the U.S. which did not originate from Thor.

Prof. Sangweni said on Wednesday the government should explain its "double standards" in allowing the importation of hazardous waste.

A Department of Environment said she could not comment at short notice. Natal Attorney-General Tim McNally confirmed on Wednesday he had requested the Department of National Health to investigate several complaints against Thor Chemicals involving hazardous waste. This followed a letter to Mr. McNally by Earthlife detailing alleged infringements of health and safety regulations by Thor Chemicals.

Three senior executives of the chemical company face charges of culpable homicide following the death of employee Peter Cele through suspected mercury poisoning. Thor said on Wednesday the Borden shipment was a "routine and unexceptional consignment."

A spokesman challenged statements that the consignment should be classified as "toxic" waste. The company extracted mercury from spent catalysts which would otherwise end up in landfill sites, he said.

Demonstrators Picket Thor Chemicals on Toxic Waste Shipment

MB2102172394 Johannesburg SAPA in English 1459 GMT 21 Feb 94

[By Greg Arde] [Text] Durban Feb 21 SAPA—Demonstrators picketed outside the Cato Ridge factory Thor Chemicals on Monday in protest against the importation of a shipment of toxic waste bound for the plant, halfway between Pietermaritzburg and Durban. It also emerged on Monday that public pressure had forced the company to stop all activities and business related to mercury. The first practical implementation of this decision means the import will be returned.

The shipment, which was on Monday afternoon en route to Durban harbour from the United States, contains more than seven tons of activated carbon containing five percent toxic mercuric chloride.

Weekend reports said the ship would be turned back after the American chemical company expressed concern about thor after recent events at the Natal plant. Criminal charges are pending after a Thor worker died of mercury poisoning.

In spite of protests the cargo would be landed in Durban because, according to carrier Safmarine, all documentation for the load indicated it was activated carbon and no more hazardous than charcoal.

But environmentalists Earthlife Africa, in cooperation with Greenpeace, trade unions and the African National Congress reportedly arranged with the American exporter to have the shipment returned.

Safmarine spokesman Richard Warnes said on Monday afternoon that regardless of reports there had been no orders to stop the shipment. He said Safmarine viewed the matter seriously "but at this stage there is nothing we can do. It is legally inappropriate for us to stop the process."

The company could not open the cargo to test it because this might increase the environmental risk if it was toxic. Safmarine was committed to the environment and would not do anything to endanger it. He said the position might change before the ship docked on Tuesday.

Earthlife Africa activist Mandy Jackson said she and eight others demonstrated outside Thor Chemicals to protest against the company's incineration of toxic waste.

Thor is claimed to have accepted three imports of 7,500 kg of toxic waste, which Ms. Jackson said still had to be disposed of. Thor was urged to return the chemicals to sender, she said.

Ms. Jackson said she had heard that Thor had agreed on Monday to stop importing toxic waste after a joint tour of its plant by an ANC environmental mission and the Environmental Justice Network Forum. A Thor spokesman confirmed this, saying: "We won't receive it (the new shipment) and arrangements are being made for it to be returned." In "all probability" there would not be further imports, he said.

"There has been so much pressure, it takes up too much of our time and it means problems with the staff," the spokesman said, adding that business related to mercury constituted about 20 percent of Thor's activities and would be discontinued.

Nuclear Power Plant Not To Increase Radiation in Hong Kong

OW0902131394 Beijing XINHUA Domestic Service in Chinese 0628 GMT 5 Feb 94

[Text] Hong Kong, 5 Feb (XINHUA)—According to verifications by the Hong Kong Observatory: Since Guangdong's Dayawan Nuclear Power Plant started trial production last August, to date Hong Kong has found no increase in the quantity of radiation. The observatory also predicted that after the Dayawan Nuclear Power Plant is officially put into operation, the increase in the quantity of radiation in Hong Kong per year will be fairly low and will not affect human health.

Since the end of last August, the Dayawan Nuclear Power Plant has started supplying on a trial basis some electricity needed in Hong Kong. The Hong Kong Observatory set up nuclear radiation monitoring posts in 10 areas of Hong Kong, but to date has found no signs of an increase in the quantity of radiation. Wang Mingsong, chief senior scientist at the observatory, said: It is predicted that after the Dayawan Nuclear Power Plant is put into full operation, the increase in the quantity of radiation in Hong Kong will be merely under one-thousandth the amount of ordinary radiation exposure in urban areas; this will not affect human health.

Dai Qianjun, public affairs manager for the Hong Kong Nuclear Power Investment Corporation, noted: Hong Kong's power plants did not increase power generating equipment last year, but Hong Kong's demand for electricity is increasing. After it is put into operation, the Dayawan Nuclear Power Plant can provide 70 percent of its electricity to Hong Kong, accounting for 17-18 percent of the amount consumed in Hong Kong; this will meet Hong Kong's power demands from 1994 to 1995. Moreover, the low operating cost will maintain a stable electric rate in Hong Kong over the next 20 years.

Pollution From Burning Coal Causes Poisoning in Guizhou

HK0902143694 Guiyang GUIZHOU RIBAO in Chinese 14 Jan 94 p 5

[Report by Li Yang (2621 7122) and staff reporter Zhou Hao (0719 3185): "Pollution From Coal Burning Brings About Social Catastrophe; 30,000 People Live in Affected Areas"]

[Text] Qianxinan Autonomous Prefecture is an area that is rarely seen in the world in terms of frequent cases of arsenical poisoning caused by pollution from burning coal; the affected areas have a population of more than 30,000. In the areas affected by arsenical poisoning, the incidences of ascites due to cirrhosis, skin cancer, and lung cancer are very high. Patients suffering from chronic arsenical poisoning mainly live in Jiaole Village (formerly Jiaole Township), Yuzhang Town, Xingren County; and Dadi Village, Bayou Village, and Xiaogeduo Village under Xingyi City; as well as Anlong County's Haizi Township and Getang Town. The incidence of disease in Xingyi City and Xingren County has reached 17.28 percent, whereas in Anlong County a new affected area was discovered in the second half of 1993, and experts estimated that the incidence of disease there would surpass 17.28 percent.

Over the past few years, governments at various levels and the relevant departments have adopted measures time and again: Closing down some coal pits, banning coal mining in some districts, distributing medicine to people, and modifying their cooking stoves, thereby controlling arsenical poisoning to certain extent. However, the problem is still a very serious, as well as urgent one, which merits further attention from the authorities and various quarters of society.

UN Official Reports Progress on Endangered Species Ban

HK0502053294 Hong Kong AFP in English 0352 GMT 5 Feb 94

[Text] Beijing, Feb 5 (AFP)—China, facing sanctions for not cracking down on trade in endangered species, seemed to have won some breathing space Saturday after a top international wildlife protection official said some progress had been made.

"We were very encouraged by what we saw," Murray Hosking, standing committee chairman of the UN Convention on International Trade in Endangered Species (CITES) told AFP.

However, Hosking, who left here Saturday after a four-day visit at the head of a CITES delegation, indicated that while the Chinese authorities had taken important steps to counter the illegal trade in rhinoceros horns and tiger bones, question marks remained over enforcement.

"The policing mechanisms they have set up are as good as any, but the important thing now is that they are seen to work," he said.

CITES launched a scathing attack on Taiwan and China in September for not enforcing restrictions and called on its 120 members to consider punitive sanctions "up to and including the prohibition of trade in wildlife" against both.

China reponded in November by issuing a total ban on the trade in rhino horns and tiger bones, including their use in traditional Chinese medicine.

Although Hosking declined to give specific details of the delegation's findings, he described the report that he would take back to the CITES standing committee as "positive."

The committee will study the report before deciding whether to go ahead with the sanctions threat.

According to Hosking, China has agreed to carry out nationwide inspections of pharmaceutical companies and outlets this year and in 1995 to ensure the trade ban is being adhered to.

"The government must make sure that the policing is done visibly. Above all, it has to make it clear to the companies that it is serious," he said.

However, he acknowledged that the use of animal parts in Chinese medicine was a deeply ingrained tradition that would take time to break.

"You cannot change the cultural traditions of 1.2 billion people overnight."

Ban on Trade in Rhino Horns, Tiger Bones Encouraged

OW0502133494 Beijing XINHUA in English 1301 GMT 5 Feb 94

[Text] Beijing, Feb 5 (XINHUA)—A senior Chinese official said here today that China will strengthen cooperation with international organizations, as well with countries where rhinos and tigers live, in its efforts to protect the endangered species from becoming extinct.

State Councillor Song Jian made the remarks to a visiting international delegation led by Murray Hosking, chairman of the Standing Committee of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

The CITES delegation, which arrived here this week, inspected rhino horns and tiger bones sealed at a storehouse of a Beijing Chinese medicine factory yesterday and flew to Zhanjiang in Guangdong Province this afternoon to watch the burning of rhino horns tomorrow.

"China has lost two billion yuan since the Chinese Government banned the trade in rhino horns and tiger bones last year," Song said.

But he noted that it was necessary for the Chinese Government to take proper protection measures to save rhinos and tigers from becoming extinct.

"This policy is not only in line with the interests of Chinese people but will also benefit mankind as a whole," he said.

"It indicates that the Chinese Government has taken a firm and serious stand in implementing international conventions, and the international community should show its full understanding of it and give it the evaluation it deserves," he said.

"China has thousands of years of history of producing medicines from fauna and flora, while it has been only five years since it enforced the law to protect wild life," Song said.

"It is a gradual process in perfecting the laws and increasing the public's awareness of the importance of protecting wild life," he said. "You cannot expect to achieve all this overnight."

Song said that he hoped that the international community would understand the actual difficulties China is facing in protecting endangered species, as well as the Chinese Government's determination and achievements in protecting wild life.

"It will not help solve problems to put pressures on China and force China to do something which it is not able to do for the time being, disregarding the country's national conditions," Song said.

He added that China is completely open to the outside world in the area of environmental protection. "We welcome international organizations to send people to China to offer any criticism of our shortcomings and improve our work by giving their help and support."

Murray Hosking said that his delegation had clearly seen that China has taken resolute measures to protect wild life, and the country's legislative work in wild life protection was outstanding.

"We particularly appreciate China's open policy in wild life protection and the country has proved this in its policy banning the trade of rhino horns and tiger bones," he said.

The other members of the delegation expressed their appreciation of the sacrifice China's state-run medicine factories have made in implementing the government's policy banning all trade in rhino horns and tiger bones.

"I urge Chinese scientists to step up their research on the substances of the Chinese medicines and find substitutes for them as soon as possible," said Izgrev Topkov, a member of the delegation.

Fujian Cracks Down on Rare Animal Trafficking

HK0702004294 Beijing ZHONGGUO XINWEN SHE in English 0522 GMT 5 Feb 94

[Text] Fuzhou, Feb 5 (CNS)—The Fujian authorities recently staged a campaign cracking down on the trafficking and smuggling of the state-protected rare species of animals and their parts, including rhinoceros horn and tiger bone. People found involved in such activities face harsh punishment.

Deputy Director of the Fujian Wild Life Protection Fund Mr. Bao Yingsen said that the trend of trafficking and smuggling rare species of animals had been on the rise in recent years. Incomplete statistics showed that a total of 520 cases of this kind were investigated and dealt with in the province last year alone with the seizure of a large number of items related to rare animals under state protection, including the skins of giant pandas, the skin and bones of tigers, a species of leopard, big lizards, rare species of cats, rhesus monkeys, pangolins and black bears, with all the confiscated items valued at over RMB 10 million [renminbi].

Illegal elements trafficking and smuggling rare species of animals for big profits mainly came from some ten provinces while others were Taiwan businessmen.

The large-scale killing and poaching of rare species of animals has aroused serious concern. The fund joined forces with departments of forestry, public security and industry and commerce in launching a crack-down on these illegal activities, staging raids and sudden inspections on guesthouse, hotels, restaurants and agricultural and trade markets for the illegal handling of rare animals. They also dealt with the seized traditional Chinese ready- made medicines containing rhinoceros horn or tiger bone available in some drugstores and foreign-related guesthouses.

The Fujian authorities investigated 84 guesthouses and hotels found illegally handling wild animals during last October alone with the seizure of some 700 wild animals under state protection and over 10,000 animals including masked civet cats and snakes, none of which belong to the key category of rare animals under state protection. A number of illegal elements were dealt with and punished. A criminal found guilty of profiteering by selling a giant panda skin was sentenced to 15 years imprisonment by the Dongshan County People's Court and was deprived of his political rights for five years.

Guangdong Province Burns 230 Kilograms of Rhino Horns

OW0702135494 Beijing XINHUA in English 1335 GMT 7 Feb 94

[Text] Zhanjiang, Feb 7 (XINHUA)—Some 230 kilograms of rhino horns were set on fire today in Zhanjiang, a booming town of south China's Guangdong Province as part of the efforts by the Chinese Government to perform its international obligations to stamp out smuggling and poaching and protect wildlife.

The rhino horns were part of the 825 kilograms confiscated by the Zhanjiang municipal government from smugglers and illegal trading. As 595 kilograms of rhino horns were identified as having been seized before China joined the Convention on International Trade of Endangered Species (CITES) of wild fauna and flora in 1980, they were exempt from being destroyed.

Hundreds of local residents watched the police poured gasoline and set the huge pile to fire under the supervision by representatives from the Ministry of Forestry, the Ministry of Public Security, the State Administration for Industry and Commerce and the State Office on the Control of Import and Export of Endangered Species. Among the audience were a four-member delegation from the CITES headed by its Chairman Murray Hosking and Secretary General Ivory Topkov.

The move was hailed by the CITES delegation as a "courageous act of the Chinese Government."

"We find this burning ceremony very much a demonstration of the commitment of the Chinese Government to wild life conservation," said Murray Hosking, CITES chairman.

"We think it is a very important gesture," he said. "It would help people in other countries to understand the efforts made in China to protect endangered wildlife."

According to the Chinese official, since the country joined CITES in 1980, it has stopped importing rhino horns.

"Though no rhinos are found in the wild in China, the Chinese Government has listed it as one of the key wild animals for national protection, banning its sales, purchase, transportation and import and export," he said.

It was the second time for the Chinese Government to burn rhino horns in public this year. Earlier this year, 50 kilograms of tiger bones (including fake ones) and rhino horns were burnt in Harbin in the country's northeastern Heilongjiang Province.

According to Chinese officials, all of the rhino horns which entered China before 1980 have been sealed by the government and will be used by Chinese scientists for experiment to find out substitutes for rhino horns, an important and very efficacious ingredient in many of the traditional Chinese medicine.

In the meantime, the Zhanjiang people's police has arrested a group of people headed by Lin Chengjie from the Wuchuan County Pharmaceutical Group Company for unsealing the rhino horns confiscated by the government to attempt to smuggle them out of the country.

Smugglers from overseas had colluded with Lin and bribed him. Chinese police said that it has the right to investigate overseas smugglers involved in the case and may demand them to stand witness in the court.

According to officials from the Ministry of Forestry, rhinos mainly live in economically less-developed countries and poaching and smuggling there were very serious. Natural disasters are also destroying the rhino population.

The number of rhinos have been reduced by 85 percent since the 1970's and only an estimated 10,000 are found in the world.

Tough Sanctions Planned for Environmental Polluters

OW0402120794 Beijing XINHUA in English 1141 GMT 4 Feb 94

[Text] Beijing, Feb 4 (XINHUA)—China will consistently crack down on illegal pollution and destruction of the environment— this year and in years to come, a senior Chinese leader said today.

Song Jian, state councillor and director of the Environment Protection Committee of the State Council, made the remarks here today at the closing ceremony of a national conference on environment protection work.

Song said his committee will focus on inspecting how well the environment laws and regulations are observed this year.

"Those who break the environmental laws and regulations, irrespective of their positions, will shoulder the legal responsibility," Song said.

Song said the government officials will not only be judged in terms of economic results but also their achievements in carrying out the environmental laws and improving the environment.

What he termed "major and important cases" of destruction of the environment will be fully investigated and handled according to law, Song said.

The state councillor said the environment pollution has been more and more severe in some areas, and disputes on environment pollution emerge from time to time.

Song said the National People's Congress and the State Council will jointly inspect the environment protection work in a dozen provinces this year.

Some of the polluters found will be obliged to improve substantially within a set time, others will be shut down, he said.

Especially rural enterprises will be further checked, he added, since some of them lack the money and expertise to control pollution, and thus bring more damage to the environment.

Song Jian said the role of mass organizations should also be brought into full play to protect the environment.

They should be encouraged to participate in this drive themselves, as well as to supervise the governmental work on protecting and improving the environment, he noted.

Nature Protection Union Vetoes Motion Against Beijing

OW0102131094 Beijing XINHUA Domestic Service in Chinese 1013 GMT 27 Jan 94

[By reporter Lin Minzhong (2651 3046 1813)]

[Excerpt] Buenos Aires, 26 Jan (XINHUA)—The 19th conference of the International Union for the Protection of Nature and Natural Resources closed here on 26 January after 10 days of intensive discussions on protecting the diversification of living things on earth and the rational use of natural resources, as well as environmental protection and sustained developments.

This was another important international conference on global environmental protection after the UN-sponsored conference in Rio de Janeiro in 1992 to discuss environment and development. The theme of the conference was "caring for the earth and its residents." The 1,300 or so representatives from 118 countries and regions presented and adopted over 100 motions about protecting the environment and promoting sustained development.

Unlike previous international conferences on the environment, experts attending the just-concluded meeting showed greater concern for conditions which people depend on for development as well as for the rational use of the earth's natural resources. They pointed out that the industrial powers' destruction and waste of large amounts of resources during their development processes must not be repeated.

The three-year strategy the conference has drawn up for the union consists primarily of urging and assisting countries to protect the integrity and diversification of the environment so as to ensure the rational use of natural resources, and encouraging government and nongovernment organizations to continue their cooperation in protecting natural resources.

On 25 January the conference, by a majority of votes, vetoed a motion sponsored by some members that vilifies the Chinese Government for destroying Tibet's natural environment and resources. Taking the floor at the conference, the Chinese representative condemned the motion, saying that it was a political motion intended to incite "Tibet independence." He pointed out that the motion's accusation that the Chinese Government has ravaged Tibet's environment is "totally groundless." [passage omitted on election of union president]

Work Conference Announces Environmental Cleanup Plan

HK0302083694 Beijing CHINA DAILY in English 3 Feb 94 p 1

[By Zhu Baoxia: "State Plans for a Green China"]

[Text] The government will implement a five-year environmental cleanup plan in pursuit of a "Green China," the National Environmental Protection Work Conference was told yesterday.

Industrial waste treatment will be improved and biological diversity will be protected.

Legislation will be hurried through to oversee the production of materials which deplete the ozone layer and control the trade in poisonous chemicals.

And international environmental conventions will be respected by the plan.

The measures for cleaning up an ever more polluted China are part of a National Environmental Protection Agency (Nepa) programme which will run up to 1998.

The World Bank, the Asia Development Bank and global environmental foundations will be asked to help finance domestic waste control projects.

And legislation for the control of waste transfer across borders will be introduced.

Nature reserves will be expanded to cover 8 percent of China's total land area under Nepa plans to protect biological diversity.

About 80 percent of the country's industrial waste water will be treated by 1998. At the moment only about 68 percent is being treated.

And five year targets have been set for the treatment of industrial waste gas and solid refuse.

Nearly 88 percent of gas will be treated, compared to the current 79 percent. And 45 percent of solid waste will be processed by 1998, compared to 1993's figure of just under 40 percent.

A pilot project to develop environment-friendly agriculture in 50 counties will be run by Nepa in coordination with seven State departments.

Local governments will use a carrot and stick approach to tighten up on the treatment of industrial pollutants.

Waste discharge licences will be necessary, and "environmental symbols" will be awarded to pollution-free products.

The country's environment has become a lot worse over the last few years, especially in the mushrooming cities, according to the Nepa report.

It is hoped that implementation of the programme will prevent further environmental deterioration and lead to a clean, beautiful and pollution-free China.

Environmental pollution and ecological damage have impeded China's reforms and hindered its foreign relations.

Products and facilities that consume excessive energy or poison the environment will be banned.

Nepa will regularly update the public on the environment. And 10 model ecology projects will be built.

The central government also plans to launch a "Green China" programme to crack down on industrial and urban pollution.

China's environment has suffered from the economic boom. In some places, energy and raw material have been consumed with complete disregard for environmental damage.

And there is widespread ignorance of State laws and regulations on environmental protection.

Some local governments just don't have the clout to enforce the current safeguards, according to Nepa.

Nepa warned that the coming five ears are crucial for the country if it is to establish adequate environmental protection for the 21st century.

Environment Official Yang Interviewed on Coal Use

OW1702065594 Tokyo KYODO in English 0630 GMT 17 Feb 94

[By Robert J. Saiget]

[Text] Beijing, Feb 17 KYODO—China's growing coal consumption poses a huge threat to the environment, a leading Chinese official said recently, and things are bound to get worse as the country struggles to generate enough energy to fuel its booming economy.

"Our biggest environmental problem is coal. You cannot deny that in the next 20 to 30 years coal use will continue to grow," Yang Jike, vice chairman of the environmental protection committee of China's National People's Congress (NPC) said in an interview with KYODO NEWS SERVICE.

"We have lots of coal...To generate electricity it's the cheapest," he said. "Coal is easy to get, you only have to dig."

China used between 1.1 and 1.2 billion tons of coal in 1993, mostly for heating and generating electricity. Industry sources predict China will consume as much as 1.5 to 1.6 billion tons by the year 2000.

Coal burning emits several harmful air pollutants including carbon dioxide (Co2), a major contributor to the global warming or "greenhouse effect," and sulfur dioxide (So2), the main cause of acid rain, which destroys the nutritional value of soil and pollutes rivers and lakes.

"As far as I'm concerned, laws are the only way to restrict the rapid development of the coal industry. We can also use laws and regulations to encourage development of renewable energy sources such as hydroelectric power, wind, tidal, geothermal power and biogas, as well as nuclear power plants," Yang said.

The threat of excessive dependence on coal is of such a serious nature that Yang sees the construction of nuclear power plants and the environmentally controversial Three Gorges dam—set to be the world's largest—as necessary projects to limit coal use in China.

Despite nearly universal ignorance of environmental concerns among the general masses, Yang stressed the Chinese Government's commitment to environmental protection, citing its signing of the UN-sponsored framework convention on climate change and the convention on biological diversity at the 1992 Earth Summit in Rio de Janeiro.

The 1993 establishment of the NPC Environmental Protection Committee places priority on environmental legislation aimed at controlling pollution and protecting natural resources, he said.

New construction projects in China now must first have an environmental impact statement approved, he said, while several draft laws will lay down standards for solid waste disposal, air and water pollution as well as standards for resource exploitation.

China's environmental protection is an uphill battle against not only the demands of rapid economic development and growing energy use, but subject to the tremendous pressures of a massive, largely uneducated agrarian population which feeds the nation on only 7 percent of the world's arable land.

Chemical fertilizers, deforestation and indiscriminate strip-mining are leading to rapid soil erosion, while new highly-productive seed varieties are diminishing genetic variety while increasing the susceptibility of entire crops to a number of destructive plant viruses.

Although Yang is careful to support the party's official policy of fast, healthy and stable economic growth, "my own opinion is that we don't want to develop too fast," he says. "Ten percent growth is too fast. I hope we can control growth to keep it below that level, ideally in the range of 6 percent."

"We are faced with a very critical environmental situation," Yang said. "Our challenge is to do our best to overcome this serious situation," he said.

Survey Blames Township Enterprises for Pollution Problem

HK1702070594 Beijing CHINA DAILY in English 17 Feb 94 p 3

["CD News" report: "Rural Firms to Blame for Nation's Polluation"]

[Text] Township industries are seriously polluting the air and water in Tianjin, Shanghai and Beijing, according to the National Environmental Protection Agency.

Rural enterprises are also pumping out massive amounts of industrial waste water and sulphur dioxide fumes in the provinces of Hebei, Shandong, Henan, Shanxi, Jiangsu, Sichuan and Ningxia Hui Autonomous Region.

The agency's nationwide survey of the environmental hazards caused by township enterprises is the first of its kind.

The aim is to help central and local governments improve pollution control by identifying the worst offenders.

The discharge of industrial waste water around the three major cities and in the worst hit provinces accounted for almost 60 percent of the China's total township water pollution, according to the agency.

Places facing grave air pollution problems are listed as Shanghai Jiangsu, Henan, Shandong, Beijing, Shanxi, Tianjin, Zhejiang and Sichuan.

The rural industries in these areas produced 57.2 percent of the pollutants piped into the air by rural firms around the country.

These areas were also to blame for 60 percent of township-produced sulphur dioxide, 63 percent of the smoke and 55.8 percent of the industrial dust of the country's total, according to the agency's investigation. The survey, which was started in 1989, covered 570,000 enterprises in almost every county in the country. Only the Tibetan Autonomous Region and Taiwan were left out.

Fourteen types of factories were named as major polluters.

They included industries involved in asbestos, coke, cement, chemicals, paper-making, leather processing, dyeing and brewing.

Many of the small industries had out-of-date production technology and a high rate of waste discharge.

To date less than one-fifth of rural industry reaches State standards for waste water disposal.

The investigation also revealed that for every five rural firms there was only one environmental protection officer.

This clearly showed that factory managers in these areas still cared little about their environment says the survey.

Industrial waste and gas were found to be the major causes of rural pollution.

The Farmers' Daily [NONGMIN RIBAO] has said that pollution-control technologies must be introduced into rural enterprises and the construction of dirty factories and mills must be limited. The best way of controlling pollution is to adopt advanced waste disposal technology, according to the newspaper.

Increased Industrial Efficiency Helps Reduce Pollution

HK1702070794 Beijing CHINA DAILY in English 17 Feb 94 p 4

[Unattributed report: "Efficiency Helps Cut Pollution"]

[Text] To prevent environmental degradation while still striving for economic growth, China should raise industrial efficiency and reform industrial structures, said Qu Geping, the country's top environmental legislator.

Heavy financial input and raw material consumption have helped maintain China's high economic growth as well as giving rise to heavy pollution, said Qu, head of the Environment Committee of the National People's Congress, in Environment Protection [HUANJING BAOHU] magazine.

Despite significant progress, China's industrial efficiency in recent years still lags behind that of developed countries.

To produce the same amount of industrial products, China uses five to 10 times more water than developed nations, Qu said.

Authorities have not fully recognized the importance of environmental protection in drafting economic plans.

Priority has been given to increasing the input of raw materials and energy, while encouraging low energy consumption and low pollution has been largely ignored.

China can no longer afford this model, Qu said.

First, resource reserves are limited. China's per capita water availability is only a quarter of the world average; per capita land area is only one-third of the global level; and per capita mineral resources only account for half the world average.

With population growth and economic development, the shortage of resources will only become more acute.

If measures are not taken to raise efficiency, production costs will rise and industrial development will be handicapped, Qu said.

The environment has become an important concern in the world. Pollution control and environmental protection regulations have been included in many international trade laws, with possible sanctions against nations with poor environmental performances.

And China, increasingly dependent upon foreign trade, must abide by international laws.

Qu suggested that China speed up its industrial, structural reshuffle and technological renovation to reduce pollution.

One method would be to increase the number of nonpolluting industries, such as the service sector.

Another method would be to reduce the consumption of energy and raw materials. Pollutants should be recycled, treated or stored to create a more efficient consumption.

Qu also called for increased government funding to fight pollution because environmental protection has become very costly.

The government should try to allocate 1 to 1.5 percent of its GNP to protecting the environment. Presently the figure is only 0.7 percent.

And environmental investment is very profitable. For every 100 yuan of investment, 600 yuan of profit could be generated.

The State might not be able to afford the increased expenditures, Qu said, but spending cuts should come from other portions of the budget to finance environmental protection.

More money earmarked for industrial projects should be given to environmental protection. The government should demand that 8 to 10 percent of new industrial investment go to environmental protection, instead of the present 4.5 percent.

The government can also raise standards for pollutant discharge, Qu said, adding that low standards partly explain why many businesses are not eager to fight pollution.

The government needs to adjust financial policies to make it easier for the environmental protection projects to get bank loans.

China Bans Sea Dumping of Radioactive Waste

OW1802084094 Beijing XINHUA in English 0826 GMT 18 Feb 94

[Text] Beijing, Feb 18 (XINHUA)—Beginning Sunday, China will ban dumping of all kinds of radioactive wastes and disposal of industrial waste and incineration of industrial waste and sewage sludge in its sea waters, a Chinese official said here today.

According to Yang Wenhe, deputy-director of the State Bureau of Oceanography, the Chinese Government has accepted the terms of three international resolutions concerning disposal at sea of radioactive wastes and other radioactive matter and the phasing out of sea disposal of industrial waste and incineration at sea.

The resolutions were approved by member nations of the convention on the prevention of marine pollution by dumping wastes and other matter in London last November and will take effect on 20 February 1994.

"The approval and implementation of the three resolutions means a stricter global control of dumping of wastes at sea," Yang told XINHUA.

"China will strictly comply with the resolutions and implement them in letter and spirit," he said.

"China will ban the dumping of waste matters which do not conform to the standards set by the resolutions," he added. "disposing of wastes without license or dumping irresponsibly at sea will be punished severely according to law."

With special permission, disposal of low-level radioactive waste at sea is allowed, according to China's present "rules of controlling dumping at sea." Controlled low-level toxic or nontoxic industrial waste is also allowed to be dumped at sea with permission. But incineration at sea has never taken place in China.

"China will make necessary revisions of the rules and regulations concerned," Yang said.

According to the Chinese official, the dumping of wastes at sea has been under strict management and control in China, according to a system which includes application, examination, approval and issuing of permits.

The State Council has approved 38 dumping regions in China's sea waters. The major dumping material has been castoff from dredging, according to Yang.

"In recent years, no pollution accidents caused by dumping of waste in Chinese seas have occurred. Close monitoring also indicates that the water quality around the dumping regions remains fine," he said.

Shenyang Plans To Cut Sulfur Dioxide Pollution by One-Third

OW2102134394 Beijing XINHUA in English 1309 GMT 21 Feb 94

[Text] Shenyang, Feb 21 (XINHUA)—Sulphur dioxide in the air of Shenyang, capital of northeast China's Liaoning Province, will be reduced to two-thirds the current content in 1996.

This is the predicted outcome of a facilities upgrading project in the Shenyang Smeltery, which emits up to 40 percent of the city's sulphur dioxide.

The project, scheduled to be completed in 1996, will slash sulphur dioxide emissions from the smeltery by 80 percent. Density of emissions will be far below limits set by the state.

The project recently received a loan of 5.89 million U.S. dollars from the Canadian Government through the Shenyang branch of the Bank of Communications.

The pollutant is mainly discharged by the smeltery's out-of-date purifying equipment, used in the preparation of sulphuric acid.

In 1994, this industrial city is reportedly to improve 70 percent of its combustion and dust removing installments to meet state requirements.

BURMA

Policies Outlined on Thai Timber Trade

BK2202044994 Bangkok BANGKOK POST in English 22 Feb 94 p 28

[Text] The Burmese Government has given Thai timber merchants until next month to haul 4,777 fallen logs out of Burma before it closes its forests, a source says.

The source said that 47 Thai timber merchants have concessions in Burma but the Rangoon government decided last December to end them in a bid to save natural resources.

The Thais have been hauling logs out but some fallen logs remain in the concession areas and it may not be possible to remove them by the deadline.

The source added that Thai timber concession holders have submitted their proposals to remove the fallen logs, but the Burmese government is still considering them.

Some Thai timber merchants have also submitted proposals to take on Burmese partners in setting up sawmills and furniture factories in Burma.

The Foreign Affairs Ministry source said that Burma's State Law and Order Restoration Council (SLORC), in consultation with several ministries, has outlined the following policies on the timber trade:

—The government will extend timber trading until March for the fallen 4,777 logs as an exception in the Maw area within the Northeastern military command;

—The Forestry Ministry will exclusively carry out timber trade. The Forestry Department will report transactions to the government for which the forestry ministry will draw up a yearly reverse sales plan, decreasing sales by 50 percent, 25 percent and 10 percent respectively;

—The Forestry Ministry will also oversee all timber production within Burma, shutting out local and foreign private enterprises;

—Internal timber trading and will be done on tender basis [sentence as published];

—Cooperatives and private enterprises will not be allowed to export timber but will be allowed to process and export wood products;

—People holding stakes in joint ventures will also be able to buy timber under a tender system based on current prices abroad;

—The military will not be allowed to deal in timber trading;

—Cooperatives and private enterprises will be encouraged to produce processed wood for export.

Minister Says Border Logging Concessions Ended

BK1602042294 Bangkok THE NATION in English 16 Feb 94 p A4

[Second and final part of interview with Forestry Minister Lieutenant General Chit Swe by Yindee Lertcharoenchok in Rangoon; date not given; question printed in boldface]

[Text]

Lertcharoenchok: How could you continue to have nearly 50 percent forestry cover when you gave out many logging concessions to Thai companies since late 1988 and only ended them late last year. The figure you gave does not seem to correspond to reality taking into account of the vast amount or volume of wood that have been extracted from those concessioned areas?

Chit Swe: The whole forest cover area involved in the border concessions is only 2.6 percent of our total forest area and besides, these forest have been more or less untouched in the past. We gave concessions of 200,000 hoppus tons only. We gave some concessions for four to five years to Thai companies. Up to now a little more than 150,000 hoppus tons a year were extracted during the peak years. When we started the concession, the average extraction was 150,000 hoppus tons a year along the whole stretch of the border. However since 1992 it was taken off, because all the concessions started to expire and we did not renew them.

Now I have to see Thai friends everyday, at least one or two. They have got heavy commitments with foreign companies to get the raw material in time. It is very important for them.

Lertcharoenchok: Now that these logging concessions are gone, what are you going to do?

Chit Swe: I have never said that logging concessions have gone. In concessioned areas we can do something for mutual benefit. We can harvest from those areas with our local people, but foreigners are not allowed to get concessions.

That is why some people are asking if insurgents coming out to legal fold, would they be entitled to the concessions. For this, we need time to consider.

For the Burman it is not easy for them to stay in that area, only the nationalities (ethnic minorities) stay there. To enter into the forestry related businesses, all interested local parties would have to deal with the central government or enter into joint ventures with foreign partners: If the area is 100 percent secure and our forest people can go in to check every tree, then we can consider which kind of business is suitable for that area. We have to consider that on a case by case basis.

Lertcharoenchok: So it means that even though foreign logging concessions have gone, the local people still have the chance to obtain them?

Chit Swe: Yes. However, it is not easy to export logs to other countries. Preference is given to value-added industries. I cannot for certain say what kind of business is good. But in general there is plenty of raw material there and one can enter into whatever forestry-related business. In some areas we can set up pulp and paper factories. Because of certain tree species, some areas are good for veneer and plywood industries.

Lertcharoenchok: Now that all logging concessions to Thai companies have gone. [sentence as published] Would you please say what experiences and problems you have learned from giving out timber concessions to Thai companies?

Chit Swe: Before I gave out concessions, my knowledge about forestry was like that of a primary student. Now after five years experience, I can say I have a PhD. We used to receive messages sent to us everyday from local commanders saying they seized 3,000 (illegally felled) logs here or 2,000 trees there, and some pointed to me saying: "Since you are the Forestry Minister, you are responsible for it. But I said it came under the jurisdiction of the police and hence not under my office." In Burmese we have a saying: "If you make it easier even for a very rich man, he still becomes a thief." It is not easy to conduct checks because we are far away from the forested areas. Because of this even a rich man can become a poacher. That is why in some areas we give concessions to them and at the same time put up border checkpoints. Anyhow they still take logs from some other areas. So in many areas there are many problems.

Lertcharoenchok: So the main problems you face stem from illegal cuttings?

Chit Swe: Yes.

Lertcharoenchok: Even by concession companies?

Chit Swe: Some companies are very good. They do their job systematically. But others however they have sub-contracts and the sub-contractors further sub-contract them. There are no checkpoints, no border police and no forest guards.

Lertcharoenchok: Roughly how many companies received your concessions and how many are good companies?

Chit Swe: Only one third of the companies behave well. We gave out about 42 concessions to 34 companies. Mostly of them were not original timber business people and that is the root cause of the problems. Of those, who tried to get concessions, I think only 10 percent were real timber men. More than 90 percent were not.

Lertcharoenchok: What are the real reasons for you to stop border logging concessions? Is it because of illegal logging or are you environmentally conscious?

Chit Swe: When we decided, it is not because of illegal logging. It is secondary. The first is because of the watershed. Our watershed is your watershed. For instance, the Tenasserim Mountain is a large range and is also the watershed of Thailand. There are also some other very high mountains in the Tenasserim-Division. From our side it is not easy to extract logs because of the high mountains. So if logs are cut on our side there will be drought and flooding in your country 100. Also, people from developed countries are putting pressure.

Up to now there are no big problems with the environmental people, but anyhow we must be very careful, because if the population become bigger, forest cover will become lesser and lesser.

The logging concessions are not only on the border areas but also deeper inside the country too. Our concern is that foreign partners would become richer and richer, but local partners would have no change in status. Because of this we want to encourage local people.

Lertcharoenchok: Thailand has plans to develop several hydropower dams along the Thai-Burmese border such as the over 6,000 Megawatt Salween Dam, and many environmentalists are concerned that those projects will have negative impacts on your natural resources, mainly the forests. What is your opinion?

Chit Swe: Now they are discuss...g natural gas to Thailand through Kanchanaburi Province. The project does not affect a big area—only a small area for the gas pipeline and only some roads. I think there is no problem.

As for the Salween Dam, I think it is a very big project. It has to go phase by phase. You should ask the Energy Minister. He may be able give you some ideas.

Lertcharoenchok: Which country is the biggest investor in your forestry industry and the biggest log buyer?

Chit Swe: I think Thai companies. When it is not easy to get logs from the border, they come here. Thai people have very good experience in the timber business. They buy from our country, logs as well as other forestry products.

The Japanese are usually the highest bidders. They buy the best quality teak and other hardwood. However, they usually sell it later, especially hardwood, to the Taiwanese. There is a case when a Japanese company bid highest in one tender for some logs. We thought it was going to Japan, but it turned out that the company sold the logs here to a Taiwanese company. When I met the Taiwanese gentleman and asked him if he was going to take the logs to Taiwan he said he was going to sell the logs to China. So it is just changing hands causing the value to go higher and higher. Because of this, we are trying to sell directly to the real buyers.

Lertcharoenchok: Is China one of your biggest timber buyers?

Chit Swe: No. It is Japan. The West also buys quality teak. Fourth quality teak is bought mainly by the Indians. They have got a very good market with the Middle East, which we don't. Because of this we go through the Indians as third party.

JAPAN

Osaka To Test New System To Clean Air

OW0502094294 Tokyo KYODO in English 0857 GMT 5 Feb 94

[Text] Osaka, Feb 5 KYODO—Osaka Prefecture will install a newly developed technology that reduces ozone-depleting nitrooxides and other car exhaust fumes at a major road to test the system over a three-year period, officials said Saturday [5 February].

An electric fan will suck in polluted air from the road level through a two- to three-meter-wide vent, which leads the air about one meter underground.

Once there, the air passes through four layers of so-called "geotextile," a filter-like fabric that absorbs the cancer-causing diesel exhaust particles (dep).

Earth bacteria will deplete the remaining nitrooxides into harmless nitrogen and oxygen, both air components, when the air penetrates through the soil on its way back to the surface.

The prefecture has earmarked 40 million yen for the pilot project in its budget for fiscal 1994, which starts 1 April. The system will be set up at a road with a traffic volume of more than 20,000 vehicles per day, the officials said.

Despite some success in reducing greenhouse gases, including nitrooxides, thanks to the broad use of catalyzer cars, eight of 105 survey stations in Osaka have said they will not be able to reach nitrodioxide targets of below 0.06 ppm (parts per million) by the turn of the century.

Plan To Store Russia's Nuclear Waste on Tanker 'Dropped'

OW0102093194 Tokyo KYODO in English 0859 GMT 1 Feb 94

[Text] Tokyo, Feb 1 KYODO—Japan and Russia have abandoned the use of a chemical tanker for the storage of liquid radioactive waste that might otherwise be dumped by the Russian Navy into the sea, government officials said Tuesday [1 February].

The officials said the idea was dropped after it was discovered that the used chemical tanker under consideration might not be able to withstand the severe cold of the Russian Far East.

They said the two sides have subsequently begun considering the idea of Japan providing financial assistance for emergency disposal facilities.

Russia asked Japan in talks last December to help find a chemical tanker with a storage capacity of between 5,000 tons and 25,000 tons. Japan had introduced a 10,000-ton class Panamanian-registered tanker docked in Singapore.

But Russian inspectors determined that the tanker might not be able to withstand severe cold weather conditions and that its deck may not be thick enough to prevent adverse effects on the environment and on the health of the crew.

A $100 million fund pledged by Tokyo to Moscow to help it scrap its obsolete nuclear weapons is expected to be utilized toward the alternative facilities.

Russia last dumped 900 tons of low-level radioactive waste into the Sea of Japan on 17 October. It suspended a planned second dumping following international protests, particularly from Japan and South Korea.

Panel Proposes Accelerating Ozone Protection Measures

OW0202132694 Tokyo KYODO in English 1106 GMT 2 Feb 94

[Text] Tokyo, Feb 2 KYODO—A government advisory panel on Wednesday [2 February] proposed a package of measures to accelerate the phaseout of ozone-depleting chemicals.

The recommendations focus on bringing forward planned production cutbacks of chlorofluorocarbons (CFCs) and other solvents that destroy the Earth's ozone layer and expanding the scope of materials subject to output restrictions.

They are contained in an interim report by the chemical product council, an advisory body to the trade minister.

The package is in response to a provision in the revised Montreal Protocol, which calls for complete abolition of five types of CFCs by the end of 1995, instead of 2000 as recommended originally.

The protocol, revised in November 1992, also called for total cessation of halon production by the end of last year and of trichloroethane manufacture by the end of 1995.

The panel also recommended establishing a legal framework to ensure adequate control and management of CFC production and curbing discharge of ozone-depleting materials.

Item-by-item output, however, should not be restricted because such a step would run counter to the market mechanism, it said.

The interim report called for efforts by the government and the private sector to promote effective recycling of CFCs.

Whaling Commission Panel To Discuss Sanctuary Proposal

OW1702124494 Tokyo KYODO in English 1138 GMT 17 Feb 94

[Text] Tokyo, Feb 17 KYODO—The Fisheries Agency said Thursday [17 February] an International Whaling Commission (IWC) working group will discuss a French proposal to create a whale sanctuary in Antarctic waters at its meeting on 20-24 February in Norfork Island, Australia.

The last IWC conference, held in Kyoto last May, decided to set up a working group to deal with the controversial proposal which sharply divided anti-and pro-whaling nations.

Agency officials said the Norfolk Island meeting will be attended by representatives from 27 members of the 40-country commission, including Kazuo Shima, the agency's deputy director general.

They said the results of discussions there will be reported at the next IWC meeting in Mexico on 23-27 May.

Biodiversity Forum Calls For More Experts in Asia

OW1702140594 Tokyo KYODO in English 1334 GMT 17 Feb 94

[Text] Tokyo, Feb 17 KYODO—An international forum of environment experts called Thursday [17 February] for greater fostering of expertise in the preservation of biological diversity in the Asian region.

The Tokyo Workshop on Cooperation for the Conservation of Biological Diversity in Asia brought together about 70 people, representing the World Bank, the United Nations

Environment Program, the governments of Japan, Indonesia, Malaysia and the Philippines, and nongovernmental organizations (NGOs).

In a closing statement to the gathering, the workshop president, Taishichiro Sato of the Japan Wildlife Research Center, said the participants had decided to promote the development of knowledge and specialized technology for the preservation of biodiversity in Asia.

Sato said they also expressed a desire to encourage more local bodies to participate in biodiversity conservation and to encourage more efficient data collection and sharing so that development decisions can be made without compromising the region's biodiversity.

The gathering was organized by the Environment Agency of Japan and the Japan Wildlife Research Center.

Colin Rees, head of the Land, Water and Natural Habitats Department within the World Bank, said the technology to ensure biodiversity is maintained is still inadequate.

Rees called on Japan to foster more people able to preserve biodiversity in its other agencies and ministries and not just within the Environment Agency.

Representatives from the Foreign Ministry, Japan International Cooperation Agency and the Japan branch of the World-Wide Fund for Nature (WWF) also attended the meeting.

Ministry Reports Drop in Volume of Non-Industrial Waste

OW2202133194 Tokyo KYODO in English 1317 GMT 22 Feb 94

[Text] Tokyo, Feb 22 KYODO—The average amount of nonindustrial waste per capita in Japan decreased marginally in fiscal 1991 for the first time in eight years in what the Health and Welfare Ministry said Tuesday [22 February] could be the start of a new trend.

The ministry said the average person threw out 1,118 grams of garbage per day during the year, two grams per day less than in the previous year.

The 1991 fiscal year ran from 1 April 1991 to 31 March 1992.

The ministry said that although the economy was still booming at the time, the very slight decrease may represent the beginning of a change in consumption habits with more people becoming aware of the need to create less garbage.

But despite the decline in the per person average, the overall amount of nonindustrial garbage actually increased.

Nonindustrial garbage thrown out during the year weighed a record of about 50.77 million tons. This was some 0.6 percent more than the previous year.

The cost of disposing of the garbage, including collection, transport and disposal, amounted to 1,998.6 billion yen, an increase of about 14 percent over the previous year.

It was the 10th consecutive increase in the annual cost of dealing with the nation's garbage.

The cost per person was about 12,800 yen, up from 11,200 yen the previous year.

About 17 percent of the garbage was buried in landfill and about 73 percent was incinerated.

Data on industrial waste is released separately, but in fiscal 1990, industrial waste amounted to about eight times the weight of nonindustrial waste.

Civic Environmental Groups To Receive 405 Million Yen

OW2202080294 Tokyo KYODO in English 0733 GMT 22 Feb 94

[Text] Tokyo, Feb 22 KYODO—An Environment Agency affiliate will give a total 405 million yen of subsidies in fiscal 1994 to 104 nongovernmental organizations (NGOs) which are helping promote preservation of the global environment, officials said Tuesday [22 February].

But civic groups are critical of the inclusion of an industry association—the Japan Industrial Conference for Ozone Layer Protection, a group set up by automakers and electrical appliance manufacturers—as a recipient of the subsidies.

Among the recipents are 23 NGOs which will receive such subsidies for the first time from the Japan Environment Corp.

The amount of subsidies to the 23 organizations will total 112 million yen, the officials said.

The subsidies will be disbursed out of a 2 billion yen fund set up with joint financing from the government and public gambling proceeds, the officials said.

Projects covered by the subsidies will include one for planting seedlings of a mangrove whose existence in the Philippines is threatened by industrial pollution, they said.

A spokesman for the Consumers Union of Japan said, "it is outrageous for the JEC to help finance the activities of the industry association. They should uphold the principle of having polluters pay for the cost of environmental preservation."

An official of another civic group, the Peoples' Forum 2001, Japan, said, "government ministries in positions to supervise business corporations and their industry bodies should not link up with those business organizations. Rather, they should focus their assistance on the NGOs led by citizens."

SOUTH KOREA

ROK, DPRK Slated To Attend Two Environment Meetings in 1994

SK0702050394 Seoul YONHAP in English 0125 GMT 7 Feb 94

[Text] Seoul, Feb 7 (YONHAP)—South and North Korean delegates will attend two international conferences on the environment in Northeast Asia this year, a Foreign Ministry official said on Monday.

A senior working-level meeting on the environment will be held in Beijing in April, with delegates from South and North Korea, China, Japan, Russia and Mongolia scheduled to attend.

Three or four delegates of the director-general level from the Foreign and Environment Ministries will attend the Beijing meeting and exchange views on energy and air pollution, management of the ecosystem, training of personnel and information exchanges.

Following the Beijing meeting, the first inter-governmental conference under the Northwest Pacific Action Plan (NOWPAP) is slated for Seoul in June or July, when South and North Korean, Chinese, Japanese and Russian delegates will discuss environmental protection in the Yellow and East Seas.

The five countries held three rounds of preparatory talks for the Seoul meeting last year. The meeting is planned because the waters around the Korean peninsula were selected as one of 12 areas by the United Nations Environment Program (UNEP) where the possibility of pollution is very high.

"Northeast Asian countries have formed a consultative body on the environment, the first time they have set up such a body on a specific issue. Moreover, it is significant that both Seoul and Pyongyang are to attend the two environment conferences," the Foreign Ministry official said.

Committee Established To Prepare for 'Green Round'

SK0102071794 Seoul YONHAP in English 0558 GMT 1 Feb 94

[Text] Seoul, Feb 1 (YONHAP)—The Coalition for Environment Protection Movement formed a committee to work out measures in preparation for the Green Round multilateral negotiations on Tuesday.

The committee is aimed at activating environmental protection steps in all aspects of society on a civilian level.

A ceremony observing the formation of the committee was held at the Press Center, central Seoul, Tuesday afternoon and the president of Songgyunkwan University, Chang Ul-pyong, was elected chairman of the panel.

"We, as a civilian-level committee, plan to cope with the Green Round negotiations, which may serve as the largest trade barrier to South Korea after the Uruguay Round talks," the committee said.

The committee plans to work out a comprehensive environmental protection plan and present it to the government, cooperate with foreign environmental organizations, and attend a civilian-level environment congress in Manchester, England, in June.

Nearly 40 environmental scholars are participating in the committee, which will study the process of negotiations in specific areas under the Green Round talks.

Opposition: U.S. Military Bases Pose Environmental Threat

SK2202005294 Seoul THE KOREA HERALD in English 22 Feb 94 pp 2, 3

[Text] The U.S. military bases in Korea are posing serious environmental threat to their host country, an opposition lawmaker insisted yesterday.

Rep. Yi Pok-chin of the Democratic Party told the Assembly interpellation session that much of the sewage from the U.S. military facilities here has been flowing into their neighboring rivers without undergoing proper treatment.

Rep. Yim cited a Seoul government report in March last year that about 1,600 tons of 5,000 tons of untreated waste water from the U.S. Air Force K-55 base in Songtan, Kyonggi Province, was streaming into nearby rivers every day.

"According to a state-run environmental research lab, the biochemical oxygen demand (BOD) in the areas surrounding the K-55 base turned out to be 122 ppm [parts per million], much higher than the internationally permissible level of 60 ppm, last August," the lawmaker said.

"Through the water and environmental pollution around the U.S. bases has been growing more serious, the Seoul government has been barred by the U.S.-Korean bilateral treaty, SOFA, from cracking down on the contamination," Yim insisted.

Rep. Yim, who retired as an Army major-general in 1991, also charged that about 1,000 tons of the nonconductor PCB (polychlorinated biphenyl), which is widely known as cancer-causing materials, have been discarded around U.S. radar bases in Korea.

"I have been told that the U.S. authorities have ignored the Seoul government's repeated order to stop their environmental misconduct," he said.

Yim then asked whether it is true that the U.S. Forces have once asked the Korean Government to finance their purification facilities.

Meanwhile, a ruling Democratic Liberal Party [DLP] lawmaker insisted during the same parliamentary interpellation session that the U.S. Forces have operated commercial facilities inside their bases against the SOFA regulations.

"The ten-story Dragon Hill hotel located in the U.S. Yongsan base has been used for business purposes rather than being used by servicemen. It is an obvious violation of the SOFA," said Rep. Kwak Yong-tal of the DLP.

Rep. Kwak, a former Air Force lieutenant-general, also asked whether the government is willing to take over the ownership of the Seoul House in downtown Seoul from the U.S. military, saying that the American facility has rarely been used by U.S. military personnel.

PHILIPPINES

Government Launched Coastal Environment Program

BK0202122194 Manila MANILA BULLETIN in English 31 Jan 94 p 27

[Text] Environment and Natural Resources Secretary Angel C. Alcala said the coastal environment has become a critical and often dominant ecological presupposition of economics, social, and cultural life as he launched the 9th coastal environment program (CEP) impact site in Telbang, Alaminos, Pangasinan.

CEP has a P90 million [Philippine pesos] funding for 1994, and P5 million has been allocated to the Region 1 CEP.

The launching was copped by a giant clam seeding activity led by Alcala and Alaminos local officials, and assisted by the University of the Philippines Marine Science Institute.

The program was earlier launched in eight impact sites in Palaui Island, Sta. [Santa or Holy] Ana, Cagayan; Palauig, Masinloc, Zambales; Ulugan Bay, Palawan; Prieto Diaz, Sorsogon; Taclong Island, Guimaras, Ilo-ilo; Mahanay Island, Bohol; Guian, Samar; and, Murcielagos Bay, Misamis Occidental.

Alcala said this program curse the disproportionate focus of DENR [Department of Environment and Natural Resources] programs on the upland ecosystems. [as published]

The program embraces the coastal communities and fisheries pertaining to their productivity, biodiversity, integrity, sustainability, and equitability of access and use.

It mobilizes stakeholders and local communities in the protection, conservation, and management of their coastal areas on sustainable basis.

THAILAND

Paper Decries Plan To Dam Salween River

BK1511035593 Bangkok THE NATION in English 15 Nov 93 p A6

[Text] The Karen are Thailand's ecological conscience.

And if Thailand's ambitious plans to build dams on border rivers are seen through, the Karen could soon weigh heavily on Thailand's humanitarian conscience.

Living among the river valleys on the border between Thailand and Burma, they—like the Penans in Malaysia—depend on having a healthy forest to maintain their way of life. They have suffered heavily from the intensive logging carried out by Thai firms in Burmese forests.

Unlike the Penan, of course, the Karen having been fighting a war of self-determination against Burma's military regime for the last 40 years. This has placed them in a vulnerable position vis-a-vis Thailand, a fact which the government has exploited to demand timber concessions.

In need of arms and Thailand's favour, the Karen have been forced to accept the logging. But now Thailand wants to construct dams on their territory.

Out of its entire winding course from the Tibetan Plateau down to the Gulf of Martaban, the Salween River only touches the Thai border for roughly 100 kilometres. Less than six percent of the river's catchment area lies within Thailand. Yet the Electricity Generating Authority of Thailand (Egat) is planning to build two major dams on this major river.

The biggest, the Upper Salween Dam, will be located 76 kms upstream from the confluence of the Moei and Salween Rivers. The 166-metre high dam would probably flood more than 1,000 square kms of land, almost entirely in Karenni and Shan States in Burma.

But the electricity and the water would go to Thailand.

The dam would have an installed electricity generating capacity of 4,540 megawatts, nearly five times more than Thailand's largest dam making it possibly the biggest dam in Southeast Asia (Malaysia is planning a 16,000-MW dam in Sarawak State).

Thailand and Burma are planning seven other joint dam projects, including the Lower Salween Dam, three on the Moei River which divides Thailand from Burma further south, and one dam apiece on the Mae Sai, Mae Nam Kok and Klong Kra Buri. Plans have been drawn up to pump water from the proposed Moei and Salween reservoirs over the mountains and into the severely depleted Phumiphon Reservoir.

Feasibility studies for seven of these projects have already been carried out at the request of the Thai and Burmese governments by the secretive, Japan-based Electric Power Development Corp, a "special corporation" largely funded by the Japanese government and closely connected to Japan's overseas development aid institutions.

The Upper and Lower Salween Dams are expected to cost around Bt100 million. With the World Bank turning away from other large-scale hydro projects such as the Narmada in India, it's not at all clear where the money will come from.

More to the point, it's not at all clear where the Karen living along the Salween and Moei River valleys are going to go. The dams will destroy not only their homes but their way of life, turning them into refugees.

The Karen will be forced into making a terrible choice, between living in Slorc [State Law and Order Restoration Council] concentration camps or Thai refugee camps. Under outside pressure, the Thai government has quietly tolerated the presence of Karen refugees, but always with reluctance and irritation.

If a military force were to move in and kick the Karen off their land at gunpoint, it would be condemned as naked aggression. So why should flooding them off their land be judged any differently? Thailand seems to be embarking on dam warfare, a serious matter since the people to be displaced are well-armed.

The Karen are also well aware that electricity for Thailand means power for Slorc, the military junta now ruling Burma. "Thailand will get the energy, Slorc will get the money, and we will be left to deal with the impacts of the dam," one Karen leader has noted.

Nor is the international community likely to accept this matter lying down. The U.S. Senate Foreign Relations Committee has recently recommended by unanimous vote that the Clinton administration take a much closer look at the human rights situation in Burma. According to the London-based human rights organization Amnesty International, a climate fear is still prevalent in the country, despite cosmetic changes by the ruling military junta.

While damming the border rivers may at first glance seem to be an easy way to generate cheap electricity and—by filling up the Phumiphon Reservoir—to show that dams can work as a replacement for watershed forests, the hidden costs of these schemes are overwhelmingly large.

Dams have long been decried as a crime against nature. These projects on the border rivers, however, are also a crime against the Karen. And since they are to be imposed on a minority people for the benefit of a foreign power, they are nothing less than a crime against humanity.

Yala Province Mines Blamed for Pattani River Pollution

BK1002060594 Bangkok BANGKOK POST in English 10 Feb 94 p 1

[Text] The Pattani River has been found to be highly contaminated by such toxic heavy metals as cadmium and arsenic, which come from mining activities in Yala Province.

Research conducted by a team of lecturers at the Prince of Songkla University since 1992 has indicated that the amount of such dangerous substances is higher than the acceptable standards set by the World Health Organisation. This is especially so for arsenic which was recorded at 0.13 milligrammes per litre against the standard of 0.05 mg/l.

The amount of cadmium in the river was measured at 0.04 milligrammes per litre against 0.01 mg/l while lead contamination was found at 0.02 mg/l.

The contamination is believed to be caused by mining activities at the Thalu Cave area in Yala's Bannang Sata District as miners dumped a huge amount of contaminated earth and sand into natural waterways.

Prof. Dr. Prawet Wasi, president of the National Subcommittee on Epidemiology, provided more funds to the team of researchers, led by Prince of Songkla Engineering Rector Suraphon Arikun.

Arsenic from tin-mining has long been the cause of a disease in Ron Phibun District in Nakhon Si Thammarat.

Cambodia Announces Temporary Relaxation of Log Ban

BK0902132694 Bangkok PHUCHATKAN in Thai 9 Feb 94 pp 1, 2

[Excerpt] Amon Antachai, governor of Chanthaburi Province, disclosed that the Interior Ministry on 4 February issued an order instructing provincial administrations along the border with Cambodia to open for 24 hours per day temporary crossing points for Thai logging companies to transport timber left stranded in Cambodia. The opening of the crossing points will last until 31 March.

The Cambodian Government earlier announced a relaxation of the timber export ban for Thai loggers to transport their timber to Thailand before the 31 March deadline.

The temporary opening of the border crossing points by the Interior Ministry is a great relief for Thai loggers because their timber has been inside Cambodia since 31 December 1992 when the Thai Government ordered the closure of the crossing points in compliance with UN resolutions. Some 100,000 to 200,000 cubic meters of timber worth several hundred million baht of Thai logging companies will be sent across the border to Thailand. Before the general election and formation of the Cambodian coalition government, the Thai logging companies were lobbying with the then Cambodian regime for permission to ship their timber out of the country to no avail. [passage omitted]

Prime Minister Chuan Calls for Reafforestation Campaign

BK0602130194 Bangkok THE SUNDAY POST in English 6 Feb 94 p 1

[Text] Prime Minister Chuan Likphai yesterday urged people from all walks of life to join the Government's project to reafforest over five million rai of land.

The project is in commemoration of the 50th anniversary in 1996 of the reign of His Majesty the King.

The premier made the call at a meeting at Government House to unveil the project attended by some 500 provincial governors, representatives of provincial chambers of commerce, businessmen and ministerial officials.

Mr. Chuan said Their Majesties the King and Queen have been devotees of forest conservation and reafforestation.

In 1996 His Majesty the King will have been on the throne for 50 years, the longest reign in the kingdom and currently in the world.

The Government will seize this great opportunity. All Thais will celebrate the event through the reafforestation project in honour of His Majesty the King, he said.

Apart from the five million rai of denuded forest land, trees will be planted at roadsides, temples, schools, government offices and residential communities.

The project, the biggest of its kind launched by the Agriculture and Cooperatives Ministry in 30 years of reafforestation work, has begun in certain areas and will be accelerated so that it is completed in time for the big celebrations in 1996.

The Government has informed Their Majesties the King and Queen about the project.

Their Majesties have expressed their royal wish that the reafforestation be carried out in uninhabited areas with mixed species of tree seedlings, especially indigenous species.

The work should be done from the top of th denuded mountains to the plains and, in the case of serious erosion, vetiver grass should be introduced to help hold the topsoil and keep humidity.

Their Majesties also said that fog catchers made from cheap local materials should be provided at the planted pits to catch fog or dew drops to feed the seedlings.

The fog catchers would also protect the seedlings from the sun and provide water for the seedlings at the same time.

The authorities concerned should follow Their Majesties' suggestions in carrying out the project, Mr. Chuan said.

The Cabinet approved the project last Tuesday and regards it as a major task for all ministers.

The project calls for the reafforestation of five million rai over 1,345 degraded forests across the country beginning on Coronation Day this year, 5 May, and ending on 5 May 1996.

After reafforestation, the project areas will be conserved and closed to commercial exploitation, and villagers will not be allowed to encroach on the land.

Those who joined the reafforestation will not be able to claim ownership of the forest.

Deputy Agriculture Minister Suthep Thuaksuban, the minister responsible for the project, said deteriorating conservation forests in national parks, wildlife sanctuaries and watershed areas will come under the project.

The Government's target is to reafforest 1.35 million rai of denuded forest land this year, 1.65 million rai next year and another two million rai in 1996.

Mr. Suthep said the Forestry Department has prepared 500 million seedlings so far for the reafforestation this year.

He said His Majesty the King pioneered the program with the reafforestation of the Chai Phatthana and Mae Fa Luang foundations, 500,000 rai of land. for the Thai people.

Several private sector companies have joined the program by expressing their intention to grow trees on two million rai of land nationwide. Oil trading businesses have promised to grow trees on about one million rai.

Reafforesting one rai will cost about 3,000 baht. The entire project will require about 20 billion baht.

A new foundation will be set up specifically to handle the project on behalf of all interested parties.

Memorandum on Water Management Signed With Australia

BK0102022194 Bangkok BANGKOK POST in English 1 Feb 94 p 3

[Text] Thailand and Australia yesterday signed a memorandum of understanding [MoU] to exchange information and experience on water resources management for Thailand to adapt for the future use of the Mekong River, according to the Science and Technology Ministry's Department of National Energy Administration.

"Australia will share experiences with Thailand of their dam constructions and management of main rivers in the four states—Queensland, NSW [New South Wales], Victoria and South Australia," said the press statement.

The MoU, inked by department director-general Prathet Sutabut and New South Wales Water Resources Department director-general Peter Millington, would cover long-term bilateral cooperation in terms of economics, engineering, science and environmental control and development.

Australia will also share information on soil condition development of NSW state, which used to have a problem with salty soil, for prevention and resolution of salty soil problems that may arise in Thailand's Kong-Chee-Mool project.

Factory Inspections To Ensure Clean River Water

BK2202052694 Bangkok BANGKOK POST in English 22 Feb 94 p 21

[Text] The director-general of the Industrial Works Department, Manat Suksaman, has given an assurance that factories along the Chao Phraya, Bang Pakong, Pa Sak, Tha Chin and Nam Pong rivers will not pollute river water during the dry season.

The department has made a series of inspections as part of a five-month campaign beginning in January to monitor factories to ensure they do not dump treated or untreated waste water which fails to meet standards into public waterways.

The factories have been urged to economise on consumption of water or to reuse treated water in the factories to help cushion the impact of the severe water shortage.

The campaign is part of the government's effort to tackle the drought this year, the worst in 25 years.

Mr. Manat said: "I can assure you that river water will not be polluted by factories along either bank of five major rivers during the dry season. However, I cannot be sure that the river water will not be polluted by communities and farms."

He said there will be constant inspections during the dry season to ensure that the factories do not pollute the river water.

"The department has got tough with factories discharging waste water into the rivers because the drought this year is the worst ever, and a very low volume of water from major dams is flowing into the rivers," he said.

"Even a little waste water dumped into the rivers can easily pollute the water."

Any factory found polluting river water will face severe penalties, ranging from warnings and fines to imprisonment, he said.

Last week Mr. Manat led a group of officials and engineers to inspect factories near the Bang Pakong river in Chachoengsao, to monitor whether the department's campaign was being carried out successfully.

He said that treated waste water from 33 major factories sited on either bank of the Bang Pakong River is being discharged into the river in very small amounts.

This is because of the limited volume of raw water. Most factories are storing the treated water for further reuse, especially for factory cleaning and garden watering. In addition, the raw water sold in this area is very expensive, as high as 100 baht per cubic metre.

After they followed the department's advice, factories can reduce water consumption by 30 percent compared with the same period last year. One million cubic metres worth one million baht can be saved, he said.

Mr. Manat said the samples of water from the Bang Pakong river show average salinity gauged at 24,500 parts per million (ppm). Dissolved oxygen is gauged at five milligrammes per litre.

This indicates that the river water is too salty and is not fit for consumption. The salinity standard of drinking water is 250 ppm.

Mr. Manat said factories sited on the banks of other target rivers are also being kept under close watch.

Factors contributing to river pollution vary, he said. For example, water in the Chao Phraya and Pa Sal rivers is mainly polluted by the community rather than by factories, while that of the Tha Chin River is the result equally of communities, farms and industrial plants

The problem of the the Nam Pong is very easy to see, as the river is static, and the department will therefore not allow factories to dump any waste water there, he said.

Phoenix Pulp and Paper Co's mill is a model in that it does not discharge treated waste water into the Nam Pong, but instead uses it to water its eucalyptus tree plantation, he said.

"With the strict measures applied to factories, I can assure you that river water will definitely not be polluted by factories," Mr. Manat said.

VIETNAM

Country Joins Vienna Convention for Ozone Protection

BK0302081194 Hanoi VNA in English 0705 GMT 3 Feb 94

[Text] Hanoi VNA Feb 3—Vietnam has joined the 1985 Vienna convention for the protection of the ozone layer and the Montreal protocol on substance that deplete the ozone layer.

The announcement comes in a recent letter of Foreign Minister Nguyen Manh Cam to the UN Secretary General Butrus Butrus Ghali. This shows Vietnam's commitment to the protection of the natural resources and environment for the sake of people's health, and the Vietnamese Government's readiness to cooperate in this field with other countries and international organizations over the world.

BULGARIA

Government Urged To Solve Radioactive Waste Storage Problem

AU0102124494 Sofia KONTINENT in Bulgarian 28 Jan 94 p 8

[Article by Dimcho Evstatiev and Dimitur Kozhukharov: "Bulgaria Will Have a Storage Depot for Radioactive Waste From Kozloduy"]

[Text] Bulgaria has been developing nuclear power for more than 20 years now, but has yet to develop a proper position regarding the problem of disposing of the radioactive waste from nuclear power plants. In the recent past, various state institutions have made attempts to overcome this backwardness, but despite this we still have no national strategy backed up by legislation and no specialized organization for controlling radioactive waste. Meanwhile, the waste is accumulating at the Kozloduy Nuclear Power Plant, and the amounts of low- and medium-level waste already exceed 10,000 to 15,000 tonnes. In recent years high-level waste nuclear fuel has been added to these deposits. Debates have been going on in the press as to whether this high- level waste should be stored at Kozloduy for 40-50 years or whether it should be sent abroad for reprocessing in return for payment. In either case, the high-level waste produced after the fuel has been treated will most likely be buried in Bulgaria, for which we will need a deep underground storage site.

In 1991, the Council of Ministers asked the Bulgarian Academy of Sciences to develop a concept for a national radioactive waste storage depot. A large team of experts was formed from seven Academy of Sciences institutes, who were joined by specialists from Sofia University, the University of Mining and Geology, the Committee on Geology and Mineral Resources, the Committee for Peaceful Uses of Atomic Energy, and other departments.

The end result of the study showed that sites do exist in Bulgaria that are suitable for constructing stores close to the surface for low- and medium-level waste with a comparatively short life, which, after treatment and packing in special containers, does not present any particular danger to the surrounding environment. As far as high-level waste is concerned, it is impossible to give a clearcut answer at this stage, because such waste takes tens of thousands of years to decay and the requirements relating to its storage deep underground are exceptionally stringent.

The studies and investigations carried out by Bulgarian Academy of Sciences have produced 56 scientific papers, the main results of which were submitted in summary form to the interested government departments. We now face a far more demanding and difficult task that must be fulfilled without delay, namely to complete additional studies and investigations of the most promising prospective storage sites and then select a few of them for detailed investigation. Such detailed investigations are extremely expensive (in the United States, Switzerland, Italy, and other countries they cost tens of millions of dollars), and for this reason it is vitally important to select the fewest possible prospective sites.

It takes over 10 years to investigate, design, and construct a storage depot for low- and medium-level waste, and 20 to 30 years to construct one for high-level radioactive waste. We therefore have no time to lose, and should immediately begin the next stage of completing the task on the basis of the Academy of Sciences report. Naturally, this cannot be achieved without active government intervention. In the United States, the commission on the problem of a national radioactive waste storage depot was chaired by the President himself. In Bulgaria too, the head of state should oversee the solving of this problem, in view of the negative reaction that may be expected from the local population and the risk of departmental interests exerting excessive influence. The responsible departments already display extreme secretiveness regarding information on contacts with prospective foreign partners, on the allocation of funds, and the conditions for their use, which is evidently connected with rivalry in controlling these funds. There is a real danger that the money that we will borrow from foreign creditors will be frittered away in the departmental budgets or appropriated in one form or another by foreign companies without any major work being completed.

This is why we insist that the government should most actively address the problem of finding a storage site for the radioactive waste from our nuclear plant and adopt concrete decisions on a national strategy and legislation, on setting up an independent agency for controlling radioactive waste, and on pressing issues relating to further investigations and research into designing the storage depot.

Bulgaria has indeed delayed far too long in resolving the radioactive waste problem. However, we still have at our disposal a considerable reserve of competent scientists and specialists, the geology of our land has been thoroughly surveyed, and all this forms a good basis for making speedy progress.

In Western countries with advanced nuclear power industries, one basic principle in developing a national strategy is not to leave succeeding generations with any economic or ecological problems arising from the underground storage of radioactive waste. In Bulgaria, on the other hand, we have tacitly adopted a different "strategy," according to which our generation will merely consume the nuclear energy, while the following generations will have to solve the problem of dealing with the radioactive waste from nuclear power production.

YUGOSLAVIA

Government Warns of Illegal Importation of Pesticides To Serbia

AU1802131694 Belgrade POLITIKA in Serbo-Croatian 15 Feb 94 p 2

[Unattributed report: "Pesticides Coming in Without Licenses"]

[Text] "Recently one has been able to notice a trend of uncontrolled importation of pesticides in our country, which is confirmed by the results of the inspections carried out by expert institutions, firms, and associations active in this field, as well as by the Customs, the Ministry of Internal Affairs, and the media." This is said in the statement issued by the Government of Serbia regarding the uncontrolled importation of pesticides, and traffic in dangerous chemical substances. POLITIKA has already written on this subject in one of the previous issues.

The statement also specifies that the sanctions, economic difficulties, and high prices of the substances manufactured in Yugoslavia actually encourage such an attitude of the farmers, who are trying to cope with difficulties by obtaining pesticides from abroad, and it is mostly pesticides that are either prohibited or not recommended for use in the world.

In addition, there is a widespread practice abroad that the dangerous substances and pesticides, whose date has expired, are exported to the underdeveloped countries of the third world, and to the transition countries of Eastern and Central Europe.

In the past several months the Ministry for Environment has come across precisely such cases of traffic and use of pesticides with expired dates. The latest case reported is that of Jagodina, where 100 kilograms of such pesticides were found.

"According to data issued by the Association for the Protection of Yugoslav Flora, last year's needs for supplies of substances for the protection of plants amounted to 10,000 tonnes. Some 8,500 tonnes were produced in the country, while nearly 1,800 tonnes were imported. This year the production of 11,000 tonnes of pesticides has been planned," it is said in the statement.

The government also states that the Association of Pesticide Manufacturers of Yugoslavia, as well as the Institute for Flora Protection in Belgrade, issued a warning to the Ministry of Agriculture on 18 January this year, that last year, within 11 months, pesticides were imported through more than 120 agencies, while only a part of the number had licenses issued by the government. As for the rest, it is not known either who issued the licenses or who carried out the analysis.

BRAZIL

Record Level of Fertilizer Poisoning Cases Reported

PY1002001194 Brasilia Voz do Brasil Network in Portuguese 2100 GMT 9 Feb 94

[Report by Arlette Milhomen]

[Text] Brazil has the highest number of fertilizer poisoning cases in the rural area where, in 1992 alone, 3,700 were reported. The World Health Organization, however, reported that this number is only 2 percent of the overall number of cases, which totals 185,000. The organization added that 30 percent of these cases are fatal.

Herbicides forbidden in other countries still are in use in Brazil, including paraquat, which is used in sugar cane plantations. This substance causes lung fibrosis, in addition to several other serious illnesses.

These cases will be reported during the Second National Congress on Workers' Health, which will be held in Brasilia next month. Causes of job injury also will be discussed in the congress. From 1979 to 1988, more than 46,000 workers died in Brazil while 26,000 others suffered injury. Experts from the Ministries of Health, Labor, and Social Security and several other organizations will attend the congress. They will present proposals for the establishment of a policy safeguarding workers' health and ensuring better supervision by the internal commission in charge of preventing job accidents.

COLOMBIA

New Environment Ministry Begins Operations

PA0802000994 Santa Fe de Bogota Inravision Television Cadena 1 in Spanish 1730 GMT 7 Feb 94

[From "National Newscast"]

[Excerpt] The new Colombian Environment Ministry began operations this morning with the swearing in of its first minister, Manuel Rodriguez. From now on all public works, industry, and service projects will require an environmental license.

The new ministry will enjoy super powers to protect the environment and the country's renewable natural resources. Law No. 99 of 1993, which created the new ministry, gave it police duties and the authority to impose fines on violators of environmental norms. [passage omitted]

Charges Filed Against Environment Minister

PA1402030494 Santa Fe de Bogota Inravision Television Cadena 1 in Spanish 1800 GMT 13 Feb 94

[From the "NTC Newscast"]

[Text] The first Environment Minister Manuel Rodriguez Becerra assumed his post just a few weeks ago, and the Attorney General's Office has already filed charges against him. The charges involve the cutting of trees in the forests of El Choco Department.

According to investigations, the minister and 20 other officials of the Choco [word indistinct] Company, CodeChoco, authorized the indiscriminate cutting of over 200,000 hectares of forest in 1980. Investigations reveal that Rodriguez Becerra, who was the director of Indirena [Institute for Development of Renewable Natural Resources] at the time and a member of the CodeChoco Board of Directors, did not control or verify the permits of five companies, including (Barza 1 and Barza 2), for exploiting the lumber in the (Chajerado) area. The new minister feels that the Codechoco Board of Directors are not responsible for that ecological crime.

[Begin Rodriguez Becerra recording] I did not directly participate nor am I responsible for the exploitation of lumber in the Indian territories. *[end recording]*

Nevertheless, the Attorney General's Office has said the exploitation authorized by CodeChoco led to the extinction of over 10 animal species, contamination of the Atrato River, and the expulsion of Indian communities from southern Choco.

HONDURAS

Summary of National Ecological Problems

94WN0143A Tegucigalpa LA TRIBUNA in Spanish 18 Dec 93 p 3-B

[Article by Mario Urrutia]

[Text] Because of its irregular topography and its mountains that rise 3,000 meters above sea level, Honduras has great forest and water resources, which suffer pressure and exploitation from industry, multinationals, politicians, the military, and the general population.

The area suitable for agriculture is 27,349 square kilometers; evergreen forests account for another 28,353 square kilometers; deciduous forests, 23,434; and as for maritime coastal resources, the southern zone has most of the mangrove forests with 46,756 hectares.

The country's water resources include 19 important rivers, of which the largest are: the Patuca, Ulua, Chamelecon and Aguan Rivers in the Atlantic zone; and the Choluteca and Nacaome in the Pacific zone.

These natural resources are undergoing great pressure from unscrupulous investors who stop at no outrage to obtain a few millions, without concerning themselves about the rest of the population.

According to studies, approximately 100,000 hectares of evergreen, deciduous, and mangrove forests were destroyed this year [1993]. The causes were various: forest fires, migrant farming, extensive livestock raising, poor land distribution and ownership, timber exports, use as firewood, salt production, and the shrimping industry.

The rivers suffer most from these problems, since into them are discarded garbage, construction debris, silt, fecal matter, industrial wastes, and dangerous chemical residues, such as nondegradable fertilizers, pesticides, and fungicides. Drought also contributes resulting in most medium-sized

and small streams drying up, reducing the volume of water carried by the principal rivers.

The environmental problems that affect people are alarming, including: a rise in the temperature, erosion, droughts and floods, poor agricultural production, respiratory, contagious, and infectious diseases, skin allergies, and cancerous growths.

In order to halt this accelerated process of self-destruction, experts in environmental affairs recommend stricter laws, institutional responsibility, more resources and better management for environmental protection, inventories and data centers for protected areas, and better programs for promoting public awareness through environmental education. Respect by politicians for renewable natural resources is also necessary, since any damage to these resources is irreversible.

Capital Lacks Water Treatment Plant

94WN0143B San Pedro Sula LA PRENSA in Spanish 8 Nov 93 p 4-A

[Article by Maria Orbelina Lopez]

[Text] Tegucigalpa—With the approach of the 21st century, Honduras does not even possess a sewage treatment system, and the population is forced to use water contaminated by feces and industrial wastes, without any sign that the government is seeking ways to resolve this health problem.

The foregoing is part of the presentation on contamination of the environment offered yesterday [7 Nov 1993] by Luis Munguia, the director of the Center for the Study and Control of Contaminants (CESCCO) of the Ministry of Health.

The official basically attributed this problem to industrial wastes and feces deposited in the water and on the ground, from which they are carried by the air to food consumed by the public.

Munguia confirmed what had already been published by LA PRENSA, that 80 percent of the water used by the public is contaminated by human waste, except for Tegucigalpa and San Pedro Sula, where water is treated before reaching the consumer.

As an example, the CESCCO researcher indicated that, of 36 industrial firms in this city, only one has anything approaching a system for treating industrial waste.

This suggests, he said, that the remainder of the industries contribute to environmental contamination by discarding their refuse anywhere.

He said that in San Pedro Sula there is a tannery whose highly toxic waste is contaminating the Chamelecon River.

He described similar situations in innumerable municipalities throughout the country, where Public Health and municipal inspectors do nothing while contamination becomes worse.

Obsolete drainage systems, systems of "floating" sewage in the streets, and inadequate drainage systems in industrial enterprises stimulate the increase in environmental contamination. This will continue as long as the necessary measures are not taken, Munguia said.

With unusual frankness for an official, Munguia said that there are agencies that have no reason to exist. Some agencies are afraid to enforce the law with companies that contaminate the environment, and others authorize unrestrained urban construction without any regulation.

The timidity shown by the authorities in applying the law to those companies without sewage treatment systems is related to political commitments they have made with business during campaigns. "Something must be done today, not tomorrow or the day after." With that remark, Munguia launched an appeal to society to join the fight to protect the environment from pollution.

CESCCO expert Guillermo Espinoza also took part in the cycle of lectures and outlined the actions that the organization carries out in its role as investigative agency for problems of contamination.

Contamination of San Pedro Sula's Rivers Described

94WN0143C San Pedro Sula TIEMPO in Spanish 7 Nov 93 p 7

[Article by Ester Marlene Amaya: "According to a Current Study by DIMA, 20 Industries are Contaminating Rivers With Their Wastes"]

[Text] San Pedro Sula—Based on the results of a new study of the protection and management of water resources that has been carried out over the past six months by the Municipal Water Division (DIMA), the new mayor of the city will have to take measures regarding the contamination caused by a number of industries that discard their untreated solid wastes into rivers.

During the televised forum in which the candidates for the San Pedro Sula mayorship participated, the subject of industrial contamination was examined in greater depth by Nationalist candidate Samuel Bogran.

Bogran revealed that industry is contaminating all of the natural water courses around San Pedro Sula, causing eight times more contamination than the entire population of the city could cause with its solid wastes.

He said that four of the industries alone produce twice the contamination that could be caused by the entire population of San Pedro Sula.

Liberal candidate Luis Garcia Bustamente said that his platform for governing called for the installation of treatment plants for residual waters.

Based on a preliminary study conducted by DIMA, in 1991 the municipality of San Pedro Sula passed an ordinance that requested businessmen whose firms discarded wastes into the Bermejo, Blanco, and Sauce Rivers to seek ways to treat those wastes in order not to contaminate the rivers.

DIMA's technical manager, engineer Jose Tulio Gomez, said that in addition to industrial wastes, the rivers are also

contaminated by human waste, and diesel and petroleum residues discarded by a number of factories.

Businessmen have indicated that investment in treatment plants involves high costs, and for this reason the directors of the Chamber of Commerce and Industry of Cortes (CCIC) have met with citizens and with Mayor Hector Guillen, to seek a coordinated solution to the problem.

In addition, Gomez said that according to the results of the study that includes a plan for inspection of residual waters, the new mayor will have to define the measures to be implemented, taking into account that the new law on the environment is more specific on the subject, as is the sanitary code.

Gomez said that the current study on the protection and management of water resources will be completed in January 1994.

The study is being conducted by the firms Hazen and Sawyer-Saibe and Associates, at a cost of $2.5 million financed by the Inter-American Development Bank (IDB).

Gomez said that 20 kinds of industry (dairy, plastics, tanning, paint, etc.) typically discard their industrial wastes into rivers.

He explained that at the moment the study does not propose solutions because it is not completed, and what exists so far is a preliminary report.

In past years DIMA has produced other studies of liquid industrial wastes, one at a cost of $30,000 and another for 100,000 lempiras.

These studies indicate that industrial discharges into the Blanco, Sauce, and Bermejo Rivers have a very high organic content, as well as metals and acids.

The master plan for potable water, still under preparation, provides for the construction of a residual water treatment plant for the city, but industry must meet certain standards so that the plant does not incur higher costs and, as a result, cause higher fees for users.

According to DIMA, the plant is expected to begin operation in the year 2000, and a study is now being completed that will be presented to the IDB with a loan request.

ALGERIA

Better Management of Water Supply Urged

94WN0144A Algiers LIBERTE in French 18 Dec 93 p 4

[Article by Z. Aliou Salah: "First International Conference on Water: Sounding the Alarm"—first paragraph is LIBERTE introduction]

[Text] A vital element, water is getting increasingly scarce.

According to statistics, Algerian water consumption increased from 1,770 cubic meters [m^3] per person per year in 1955 to 689 m^3 per person per year now.

For future years, the most optimistic forecasts count on only 332 m^3 per person per year. The availability of this precious resource, essential for economic and social development, is therefore quite restricted and will become still more so if part of it becomes unavailable because of the urban, industrial, and agricultural population or again because of constant daily waste. Add to this runaway demographic growth. The mobilization, transportation, distribution of water, and the preservation of its quality require considerable financial resources, which the state cannot go on providing forever at the expense of other economic activities. Mr. Zebarene, general inspector at the Ministry of Equipment, told Channel 3 that if we are to achieve savings, "we cannot continue to manage our resources as we are doing now." "Economic tools that deter aggression against the water environment and provide incentives to save water and make the necessary investments," are essential, he said, adding that "everybody's good will alone is not enough." To finance the water sector, the Ministry of Equipment stated that it would be desirable to adopt rates reflecting Algeria's economic realities. For instance, faced with the increasing scarcity of what is considered as a source of life, optimum management of our water resources remains a must. To this end, a conference covering various themes will take place today and tomorrow at the headquarters of the National Data-Processing Systems Company [ENSI].

"Water resources, the fragility of water, water as an economic product, and the organization of the water sector," such are the four themes to be considered by the conference. This first conference, chaired by Mr. Mokdad Sifi, minister of equipment, and attended by the governors of the principal Algerian towns, will consider the management of the public service, the economics and organization of water production, and water distribution.

In addition to these specific themes, the conference will also consider questions having to do with pollution, storage, the collection of underground and surface water, and the role of water in the national economy.

INDIA

Amendment to National Environment Bill Explained

94WN0145 Bombay THE TIMES OF INDIA in English 10 Dec 93 p 8

[Text] New Delhi, Dec 9—The national environment tribunal bill, 1992 has been amended, taking away the power of the Central government to exempt any undertaking or corporation, owned or controlled by the state or Central governments, from the liability of damages in case of a mishap in their premises.

This has been done by dropping clause 4 of the original bill on the recommendation of the department-related parliamentary standing committee on science & technology, environment and forests. The report of the committee was presented to the Rajya Sabha yesterday.

The committee also added a new sub-clause, aimed at empowering the national environment tribunal to take up claim cases for compensation *suo moto*.

The committee has observed that though the title of the bill conveys an impression that it is very comprehensive and covers all cases of liability and compensation arising due to environmental damage or pollution, whatever be its cause, its scope is actually restricted to cases concerning the protection of environment and payment of compensation for damage to persons, property and the environment while handling hazardous substances.

"The committee strongly feels that the government may seriously think of enlarging the scope of the bill by including cases of compensation for damages which are caused even by such substances as have not been identified as hazardous by the ministry of environment and forests...," the report says.

Pollution in Amritsar Increases Sharply

94WN0146 Bombay THE TIMES OF INDIA in English 18 Dec 93 p 6

[Text] Amritsar, Dec 17—Amritsar is fast becoming one of the most polluted cities in the state, according to a study conducted by the state pollution board.

The quantity of suspended particle matter (SPM), commonly known as dust particles, has registered a 50 percent increase in the past seven months, while the sulphur dioxide content in the air has shot up by 100 percent in the same period. In addition, 36 lakh kg of organic fluid is discharged from various sources daily, spelling disaster for the crops in the vicinity.

The state environment secretary, Mr. J. S. Maini, in his keynote address at a workshop organised by the pollution board here recently, had referred to the substantial increase in air-related diseases among the locals. He had warned that this might assume alarming proportions if allowed to grow unchecked.

Pollution is at times so acute in the residential colonies on Batala road that a white sheet left in the open often turns black overnight as the suspended particles settle down.

Amritsar now comes a close second to Ludhiana in the pollution chart released by the board every week. The city recorded 840 and 640 microgram normal cubic metre of suspended particles against the permissible limit of 200 microgram normal cubic metre.

India Rejects 'Absolute Specifications' on Forests

BK1802063694 Delhi All India Radio Network in English 0245 GMT 18 Feb 94

[Text] New Delhi has made it clear that it will not allow GATT or any other global forum to review its priorities of development. The minister for environment, Mr. Kamalnath, says India is opposed to any absolute specifications for conservation of forests which are a community asset. Addressing a round table discussion organized by the UN Environment Program and UNCTAD [United Nations Conference on Trade and Development] in Geneva, he termed the efforts to put environmental barriers on trade as green imperialism. Mr. Kamalnath said any move for global (?ecological) system amounts to legitimizing extraterritorial interference. He called for a moratorium on linking trade with environment unless it impinges clearly on collective ecological security.

President Sharma Addresses Parliament

BK2102125594

[Text] The crude birth rate, which was 41.7 per 1,000 from 1951-61, decreased to 29 per 1,000 in 1992. The crude death rate, which was 22.8 from 1951-61, decreased to 10 in 1992. The total fertility rate, which was 5.97 from 1951-61, decreased to 3.6 in 1991. The infant mortality rate for the country as a whole has decreased from 146 per 1,000 live births from 1961-79 to 71 in 1992. While these are significant achievements, the increase in population is still staggering. The government attaches the highest importance to reducing the population growth rate. There is a national consensus to promote family welfare. For this, multidimensional and multisectoral efforts involving state governments, opinion leaders, nongovernmental organizations, and all sections of society are essential. All political parties must unanimously exhort the people to adopt the small-family norms and transform the family program into a mass movement. The National Development Council [NDC] has endorsed the recommendation of the Committee on Population it set up earlier. The NDC also decided to hold wider consultations with the chief ministers and opinion makers on the future course of action needed to implement the NDC's recommendations. This will be done shortly.

We are fully aware of the links between the development process and protection of the environment. The need for the conservation and wise use of natural resources is reflected in our major river cleaning and pollution abatement programs, as well as in our forest and wildlife policies. While participating in the continuing international debate on biodiversity, climate change, and increasing desertification, we have kept in focus the basic issues—raised at the 1992 Rio summit—of access to resources and technology. Within the government, our development efforts will take full note of all our environmental concerns.

The pace of technological changes and the need to shift to technologies that are environmentally compatible imposes various demands on us. Restrictions placed on the transfer of technology require us to rely more on our own talents. The government is committed to encourage this to happen by tapping the great potential that the country possesses.

Agreement Reached With Brazil on Environmental Cooperation

BK2202064794 Delhi Doordarshan Television Network in English 1630 GMT 21 Feb 94

[Text] India and Brazil are to cooperate in the fields of forestry, pollution control and waste management. This was announced after talks between the environment minister, Mr. Kamalnath, and his Brazilian counterpart, Mr. Rubens Ricupero, in New Delhi today. Mr. Ricupero offered Brazilian know-how for using alcohol as a substitute for petrol. He sought Indian assistance in environment audit.

Environmental Laws Deemed Ineffective

94WN0162B Bombay THE TIMES OF INDIA in English 10 Jan 94 p 7

[Article: "Environmental Laws Ineffective: Expert"]

[Text] Nagpur, Jan 9—Despite a large number of legislations, constitutional directives and the setting up of pollution control boards all over the country, India's success in curbing environmental degradation has been negligible, according to Mr. M. C. Mehta, general secretary of the Indian council of enviro-legal action, New Delhi.

This was stated by Mr. Mehta in a paper on the "Role of judiciary in environmental protection" presented at the Indo-British workshop on "Environmental impact and risk assessment of petrochemical industry and environmental audit" currently being held at the National Environmental Engineering Research Institute (NEERI) campus here.

Mr. Mehta was not present at the workshop, but his paper has been included for consideration by the workshop participants.

Mr. Mehta noted that there are about 200 legislations in India, which directly or indirectly relate to environment protection. The earliest one, the Shore Nuisance (Bombay and Colaba) Act was passed way back as 1853 and the latest one was the Environment Protection Act of 1986. But these legislations did not have the desired effect, he regretted.

However, a significant development in the past decade has been the increasing number of public interest litigations initiated by people belonging to all walks of life and the role played by the supreme court and some of the high courts in the protection of the environment. The courts have taken upon themselves to expand the ambit of article 21 of the constitution by interpreting that the right to life included the right to live in a healthy environment.

Mr. Mehta alleged that because of the close nexus between the industry and the authorities, effective implementation of environment laws have been blocked. Also, there was not enough public consciousness about environmental issues.

Mr. Mehta has made a fervent plea for implementing the supreme court's suggestion, made in 1956 while hearing the Delhi gas leak case, for the setting up of environmental courts. He noted that at present more than 4,500 population-related cases were pending before various courts in the country with no sign of them being disposed of early.

He cited serious environmental problems like pollution of rivers by industries, loss of millions of acres of fertile soil and crops due to ground water contamination by discharge of toxic industrial effluents and alarming rate of deforestation.

Environment Protection Protocol Signed With Austria

94WN0162A Madras THE HINDU in English 14 Jan 94 p 9

[Article: "New Dimension to Poll Panel—Assam Tussel"]

[Text] Guwahati, Jan 13—Yet another battle is on the cards in the prolonged war between the Election Commission and the Government of Assam.

In its latest order issued on 11 January, the Election Commission has directed the State Government to undertake 'special revision' of electoral rolls in respect of the 40 Assembly constituencies (out of the total 126) where their use had been stayed pending 'approval and clearance of the Election Commission.'

This unusual intervention, withholding the publication of electoral rolls of almost one-third of the total number of constituencies in the State, was made between the publication of the draft electoral rolls on 5 October 1993 and the eve of the publication of the final electoral rolls on 27 December 1993. This step clearly invested the popular perception among most Assamese speaking people that the State had a very large number of 'illegal aliens' most of whom were seen as inhabiting the very areas covered by these Assembly constituencies, illustrative of the catholicity of the political choice of these 'suspected illegal aliens' is the fact that candidates from all the major political parties in the State were returned from these 40 constituencies in the last elections, though there was a marked preference for the Congress whose nominees, won from 23 of these constituencies. The other parties representing the remaining 17 of these 'suspect' constituencies are: AGP (Asom Gana Parishad (Assam People's Council)) (five, including Barhampur, represented by the former Chief Minister, Mr. Prafulla Kumar Mahanta), BJP (Bharatiya Janata Party) (four), Bodoland Legislature Party (three), CPI (Communist Party of India) (two), SUCI (two) and Independent (one).

Basic document: The most interesting feature of the 'special revision' with 1 January 1994 as the 'qualifying date,' is that they will have as the basic document the draft electoral rolls published on 5 October last year. In other words, the Election Commission has taken exception to the procedures and actual conduct followed in the preparation of the final electoral rolls between that date and 27 December 1993, and has directed the State authorities to go over the whole process once again. All indications are that the impasse will not be broken since the structures in the State (as well as the political and other compulsions that presumably vitiated the earlier process remain the same.

The Election Commission has also directed the State authorities to take up a 'summary revision' with respect to the 86 Assembly constituencies whose final electoral rolls it had allowed to be published barely three weeks ago, with 1 January as the fresh qualifying date.

REGIONAL AFFAIRS

Central Asian States Revive Interest in Siberian River Diversion

94WN0157A Moscow NOVAYA YEZHEDNEVNAYA GAZETA in Russian 21 Jan 94 p 2

[Article by Khasan Iskandarov: "Ecology: Will Tashkent Become Port City? Idea of Diverting Siberian Rivers Seems To Have Captured Masses' Imagination Again"]

[Text] The intensive contacts among the presidents of the former Central Asian republics that have characterized the start of the year, for all the seeming diversity of the problems raised and proposed for solutions, have one common thread. Every meeting has discussed the question of saving the Aral Sea. It is a truly important question and one that requires a prompt and effective solution. The ecological disaster zone that the Aral region has been declared is inhabited by people, and life is hard for them. But the remarkable thing is this: All the presidents want to solve the water supply problem not using their own funds and resources, but by diverting northern rivers to Central Asia.

No one is talking about this openly, but just such an option is continually being implied. But why now, in winter? The time is not far off when it will be necessary to begin irrigating crops, a sizable place among which is held by cotton, and the meager water resources will start being divided. This year, judging from specialists' forecasts, will be just as dry as previous ones. And water has always been valued especially highly in the East: It has caused conflicts and strife, and things have often reached the point of using force. The Tajiks have fought with the Uzbeks and the Uzbeks have fought with the Kirgiz; this is true of not only ancient times, but also the very recent past. Today the new states of Central Asia are to some extent being saved by the continuing war in Afghanistan. It's terrible to say, but true. If the war were to stop and the Afghan tribes to begin raising crops, a very difficult situation would ensue. Four countries would immediately find themselves on dry rations.

This is what accounts for the flurry of activity.

One would think that the insane idea of diverting part of the flow of Siberian rivers to Central Asia had been buried once and for all. But this is not the case, and increasingly persistent efforts are being in Uzbekistan to sway public opinion in favor of a positive resolution of the erstwhile "project of the century."

It is being actively suggested to the people who are suffering from a water shortage and poor water quality that only the postponed diversion of Siberian rivers can save them from disease and utter extinction.

But the devil is not so black as he is painted; in other words, what is the actual water situation in the republic? In the rayons of the Aral region, it is truly catastrophic. The waters of the Syrdarya essentially stopped reaching the area in 1976. Only up to three cubic kilometers of water a year flow into the Aral from the Amudarya. Yet both rivers initially carry almost 20 times that much. Is all the water being diverted by continually developing agriculture? Hardly, although this is true in the sense that farmers take as much as they can, not as much as they need. Irrigation norms in Uzbekistan are overstated by a factor of 1.6. A similar picture obtains in Kazakhstan and Turkmenia. And let us ponder the following fact: In just over the past 10 years, 84 billion cubic meters of water have been used for irrigation in the Aral basin, while discharges of water after irrigation into undrained valleys and losses in the much-touted Karakum canal exceed 100 billion cubic meters. An entire system of large lakes with no commercial purpose has formed in Central Asia and Kazakhstan. Waters that once could have fed the Aral Sea have now flooded vast tracts of land and farmland. On the one hand, we have a dying sea, and on the other hand, we have lifeless lakes that stretch for hundreds of kilometers.

When the decision to drop the idea of diverting part of the flow of Siberian rivers somewhat sobered the most adventuristic heads, a great many alternative solutions to the problem were proposed in Uzbekistan—effective and serious proposals. Specifically, one plan called for diverting drainage waters that are currently being discharged into undrained steppe depressions (Aydarkul and Sarykamysh) along a natural channel into the Aral. Another proposal called for dividing the Aral's water up with earthen dams, thereby making it possible to manage its cycles. Yet another called for carrying out large-scale phyto-amelioration and forest-conservation projects, treating the drying sea bottom with cementitious material, building a right-bank discharge drain along the entire length of the Amudarya, and so forth. All these projects would require enormous capital investments, which Uzbekistan simply cannot come up with on its own. But the problem is not so much the money (it could ultimately be scraped together with Russia's help), as people. There is no one to implement the project in a republic burdened with surplus labor resources. A paradox? It's really more of a logically consistent pattern. The nearly 3 million people who currently live in the lower reaches of the Amudarya from Khorezm to the Aral do not want and will not build either a discharge drain or dams, despite the fact that they are the ones who are currently forced to use water contaminated with pesticides and other chemicals.

Readers, believe this author, for he is hardly indifferent to the fate of millions of fellow citizens who live in the ecological disaster zone. But there is only one possible solution to this problem—to conserve the water already available in the republic.

Writer P. Shermukhammedov, chairman of the committee for saving the Aral, believes that without large financial and other outlays, just by taking water conservation steps, the sea could receive 30 to 35 cubic kilometers of water annually, and that would stabilize the Aral at the existing mark.

There is one other aspect of the problem that, if unremarked, makes it hard to explain just why the republic leadership is inclined to insist on the option rejected eight years ago. People in Uzbekistan try not to talk about it, for it is fraught with certain extremely negative consequences. The birth rate in Uzbekistan currently exceeds the average world level. Scientists call it a demographic explosion that

could very likely become a social explosion. This is no joke, and the prognosis is not all that unrealistic. Suffice it to recall the events in the overpopulated Fergana Valley. Uzbekistan has more than 22 million people today, but as Karimov has said, that figure will double in 10 years.

Meanwhile, Eastern-style democracy has revived previously suppressed Islamic religious forces that oppose any attempts to control the birth rate, something they say is at odds with true Muslim traditions.

And one final point. Methods of saving the Aral are still in the theoretical stage. Despite the practical recommendations devised by a number of specialized institutes, their implementation remains highly problematical. I will venture to express what is perhaps a trenchant but, in my opinion, the sole possible explanation for what is going on. Impeding the implementation of the existing projects is a kind of Eastern stratagem whose aim is to exacerbate the situation in the ecological disaster zone so much as to make a diversion of Siberian rivers the only likely solution to the crisis.

I hope I am wrong, but I fear that this is indeed the case.

RUSSIA

Yablokov Faults Government Bureaucracy for Lack of Ecological Progress

94WN0124A Moscow MOSKOVSKIYE NOVOSTI in Russian No 48, 28 Nov 93 p B7

[Interview with Aleksey Yablokov, adviser on questions of ecology to the president of Russia, by MOSKOVSKIYE NOVOSTI observer Mikhail Shevelev; place and date not given: "Leaders: Aleksey Yablokov"]

[Text] *"...I intend to resign. Rather, I am thinking about it very hard...."*

In the discussion the presidential adviser calls the Russian Government, as in the old days, the Council of Ministers, and he finds it difficult to remember the precise names of the instances and state posts. It is remarkable that four years of work in the highest echelons of power have not been enough to take the real bureaucrat out of him.

Shevelev: Do you intend to run for the Duma?

Yablokov: No. Out of considerations of principle. I am familiar with this work from the Union parliament and I do not find it especially interesting.

Moreover the Green Movement cannot count on a large number of seats in parliament now. I have the opportunity to analyze the president's mail and I see that this subject occupies 10th to 12th place in importance...so we will have to join in a bloc with other parties, that is, get involved in politics.

I came to the president's administration to work as an adviser and I hope that I will be able to do some real work. And up until this spring I had not been disappointed.

Shevelev: And what happened in the spring?

Yablokov: I saw that I had no support behind me. The ministry of environmental protection came out in support of the program for the development of atomic energy. I said that it could not be adopted without an expert ecological evaluation, but in the cabinet meeting I was supported only by Minister of Justice Nikolay Fedorov. There are some things that cannot be done, there is a limit to compromise.

Shevelev: Does the problem lie only in your disagreements with the minister of environmental protection?

Yablokov: I think that what happened with him, the fact that he was not able to resist bureaucratic pressure, says something about the entire government. Is this really the government we dreamed about when Gaydar and Burbulis came? Did we need eight or nine deputy prime ministers with duplicate functions? Did it not turn out to be uncontrollable?...

Shevelev: Aleksey Vladimirovich, you are speaking as a person who intends to retire.

Yablokov: I intend to leave. Rather, I am thinking about it very hard...in the spring when I understood that I would not be able to get through the Council of Ministers I suggested raising these issues at the Security Council. For now an interdepartmental commission on questions of ecology has been created. If nothing happens here....

Shevelev: "Raise questions," "interdepartmental commission"—this does not sound very inspiring....

Yablokov: This is my last chance. Let us look. Yesterday, for example, at this commission they discussed what to do with the submarine Komsomolets. The direst predictions from four years ago are coming true. The plutonium has turned into a mushy mass and only the beryllium lining is keeping it from spilling out.

Shevelev: How long, in your opinion, will it hold out?

Yablokov: A year.

Shevelev: And what did your interdepartmental commission decide to do?

Yablokov: There were voices that said we should not get upset. But when it came to the question of who would sign such a decision—not to do anything—there were none who were willing. We will spend money now because otherwise, if the plutonium starts leaking, we will spend 10 times as much on fines alone. And we will also be blamed for others' pollution—we know the rules of this game—for example, the discharge of plutonium from the British nuclear power plant in Sellafield.

At the next session of the commission we shall be considering a document with this name: "The Threat to National Security in Connection With Reduction of the Fertility of the Soil." Last month we considered technogenic accidents. Just think: Each day there are two large accidents in petroleum and gas fields, each week there is a serious accident on rail transportation, each month in industry, and every half year there is an accident like Tomsk-7 or the fire at KamAZ which cost us taxpayers hundreds of millions of rubles.

Shevelev: And in this situation you are thinking about retirement?

Yablokov: We are not in England or in Sweden. There they have significant nongovernmental organizations, for example, ecological ones, which will not allow the ruling party to make big mistakes. This is not fighting, but cooperation in administration. But here...if at that damned meeting on the development of nuclear energy I had not simply spoken with emotion—and I simply shouted there that this program must not be adopted—and if instead I had a well substantiated, well argued document...but under our conditions it is impossible to get such a document through state structures.

Shevelev: Why?

Yablokov: The system resists. For example, the program for the development of energy is now being considered. At best we will receive nuclear energy at the previous level, and at worst—on an even larger scale. And yet there are other possibilities! SU fighter engines use kinds of technical solutions that, if applied in gas turbine electric power plants, in three years and with $6 billion we could solve the problem of energy supply. And to bring our nuclear power plants up to the level of safety in the West, which we, gritting our teeth, will agree to do, will take, according to certain estimates, 160 billion [no currency specified]. Everybody knows this including Yeltsin and Gaydar. They issued an order for Shumeyko to create a commission. It was created but it never met even once. I went to the president three times, I cannot do more. I am not an intriguer!

Shevelev: Does it seem to you that the resistance from the system is spontaneous or does it have a mercenary basis?

Yablokov: There are no mercenary interests. There are departmental ones. I cannot accuse the minister of nuclear energy of being concerned about his own pocketbook. The department is what is important to him.

Shevelev: But they are the same thing. Whoever has the bigger budget is the one who lives better. So we have not gone anywhere in the past five years? The word itself seems somehow archaic Sovietism—"departmentalism"...

Yablokov: Two years ago it seemed that everything would be different. I remember these government meetings; I participated in them. There were like-thinkers: Gaydar, Burbulis, the people who were at their side. And for some time they acted as like-thinkers. But then came bureaucratic life: A decree has to be adopted here, 50 salaries have to be added there, create a department here—and we had no antidote. Now so many decrees are being adopted it makes your head spin! The government made a resolution last year: The same department may not use natural resources and be in charge of their use. A week ago Zaveryukha, the deputy prime minister in charge of agriculture, put through a resolution on the creation of a Main Hunting Administration under his jurisdiction. And the way he did it! Even Yarov, who is responsible for natural resources in the government, did not know about it. And they lie at the same time! They said it was coordinated with the ministry for protection of the environment...it was not coordinated! So with relations like these I do not see a place for myself.

Shevelev: But you still have hope in the Security Council.

Yablokov: Perhaps they will take a different attitude toward its resolutions.

Shevelev: And do you have no hopes for the new forms of management? If the state is anti-ecology perhaps private capital will be more reasonable?

Yablokov: They have their own threats here, but there is a solution. The condition of the environment we have here existed in America, Japan, and Europe 30 years ago. And now people are swimming in the Rhine and trout have appeared in the Thames. They did it! How? The polluter pays, and not mythical fines but enough to reimburse the society for damages. Then there is payment for the utilization of nature. If there is no master of the land this means, in the first place, that you can pollute wherever you want to and, in the second place, nobody is responsible. And, finally, instead of writing complaints we must learn how to defend our rights in court. And we even have precedents. The socioecological alliance took the government to court for a resolution concerning the development of the nuclear power industry, and the Constitutional Court accepted it. And I know that the government started thinking.

But on the other hand we must copy nothing categorically. The average Swede or American consumes 60-70 times more energy resources than citizens of other countries do. If we, the largest country in the world, adopt this type of utilization of nature, the world will simply have no future.

Shevelev: Perhaps Greenpeace is right; they fight for this future using desperate, almost irrational actions.

Yablokov: Almost a year and a half ago I was in charge of the Soviet branch of Greenpeace—not everything is so simple here. Of course, desperate actions are necessary, but with respect to Greenpeace—and this is a powerful organization—there is reason to believe that certain interests are behind them.

On the one hand, there is the sincere enthusiasm of honest young people who are indeed taking a risk. For example, members of Rainbows of War—that is the Russian analog to Greenpeace—were simply beaten when they tried to stop work on a mine in Samarskaya Luka National Park. On the other hand, there is the suspicion that there is a great deal of money behind all this.

Shevelev: A way of eliminating competitors?

Yablokov: Perhaps.

Shevelev: But ultimately it was because of Greenpeace that we learned about the pouring out of radioactive wastes in the Far East.

Yablokov: A good example. You know the ecological significance of this discharge? None. The radioactivity was 0.38 curies. Japanese nuclear power plants annually discharge hundreds of curies. The British and French—thousands of curies a year. Such is the scale of the event.

Shevelev: Why did our government have to take the blame for this?

Yablokov: Most likely they were afraid of a political outcry. But the people who made this affair public—they were highly professional. They must have known that radioactivity below one curie is not even considered pollution. But then you wonder why?

Shevelev: So the only result of all the hubbub were credits obtained to modernize and construct plants for processing radioactive wastes.

Yablokov: So it would seem.

Shevelev: Since our discussion has come around to the ecological movement, are you not disturbed by the fact that these organizations have frequently taken nationalistic positions?

Yablokov: I am. The ecological movements were the first manifestations of the opposition to be allowed. And what did they produce? Rigid, uncompromising nationalistic organizations in the Baltic, Moldova, Ukraine, and Armenia. The picture is similar in Russia. This makes me bitter because I have fundamental political differences with Rasputin who, like myself, is protecting Lake Baykal. But he is an absolutely sincere person and he speculates a very great deal...any argument of the nationalists: the birth rate is declining, the nation is dying out! But we should not juggle the facts: Even ten years ago all predictions said that we were proceeding toward these indicators.

Shevelev: You are a man of science. Were you willing to get involved in all this...politics?

Yablokov: Up until 1986 I could only dream about having the information that is available to me now. Now I regret the fact that I do not have time to interpret it. During the past four years I have accumulated unique experience in ecological activities in higher echelons of power. It would be a shame not to take advantage of it.

Shevelev: And has the perestroyka frenzy passed?

Yablokov: You know, my father died from cancer, and then my mother, and then my wife too. And among the causes of oncological diseases—70 percent are in the ecology, in the environment. I do not want my grandsons to die of cancer. For me politics is a personal issue.

MOSKOVSKIYE NOVOSTI Dossier

Aleksey Vladimirovich Yablokov. Born 10 March 1933. Graduated Moscow State University imeni M.V. Lomonosov. Doctor of biological sciences, corresponding member of the Russian Academy of Sciences. From 1956 through 1990, worked in the USSR Academy of Sciences Institute of Biological Development. 1989-1991—USSR People's Deputy. Since 1991—RSFSR state adviser on Ecology and Public Health. Since August 1992—adviser to the Russian Federation president on questions of ecology and health protection.

Association Uses Unique Method To Process Nuclear Waste

LD1002115194 Moscow Ostankino Television First Channel Network in Russian 0900 GMT 10 Feb 94

(Video report by correspondent Sergey Sergeyev, identified by caption, from the "Novosti" newscast]

[Text]

Sergeyev: *[Video shows people working with various types of machinery and containers, a storage area, a room with control panels and computer screens]* This is a section that turns the atomic industry's radioactive waste into glass. Three years ago, the Mayak Production Association in the South Urals increased its use of a furnace that was, and is unique. Russian atomic industry workers were the first to master, on an industrial scale, the technology for turning waste into a glass-like material that is then poured into these steel containers, made airtight, and then placed in storage cells. Encased in solid concrete, the nuclear genie cannot get out. One hundred and fifty million curies of radioactivity have been rendered safe so far. By way of comparison: This represents three Chernobyls. No one in the world has ever placed such a quantity of radioactive waste in storage. Colleagues from France, Britain, the United States, and Japan have taken an interest in the experience of the Mayak atomic workers. Similar facilities are being built there now. However, there is a problem. Another two or three more glass-making installations need to be built for all of the waste that was accumulated during the 40 or more years of Mayak's work for the defense industry to be processed quickly. But this important ecological program is not being fully financed, and the Urals atomic industry workers will not be able to deal with this problem on their own, without the state's help.

Ships With Stored Radioactive Waste Pose Threat to Russia's Pacific Coast

94WN0134B Moscow MOSKOVSKIYE NOVOSTI in Russian No 1, 2-9 Jan 94 p B10

[Article by Yelena Matveyeva, MOSKOVSKIYE NOVOSTI Far Eastern correspondent: "The Eastern Shore Is Still Inhabited..."

[Text]

Russia's Pacific coast is threatened by a general environmental disaster. Freighters and nuclear submarines belonging to the Pacific Fleet and loaded with liquid radioactive wastes are docked at seaports in the Far Eastern region. Furthermore, some of the vessels are in a dangerously dilapidated condition. The situation is extremely hazardous, and at this time there is no solution to the problem. That was the announcement made a few days ago by Yevgeniy Nazdratenko, administration chief of Maritime Kray.

MN Dossier

There are only 10 areas in the Far Eastern seas where radioactive waste (both liquid and solid) is dumped. Just one of these, located in the Sea of Japan 105 nautical miles from Vladivostok, 80 miles from Nakhodka and 295 miles

from Hokkaido, has over the past 20 years been the dump site for more than 33,000 cubic meters of liquid radioactive wastes with a total radioactivity of 10,842 curies. In addition, 9,846 cubic meters of solid radioactive waste with a total radioactivity of 2,230 curies has also been dumped there. At the same site the sea floor at a depth of 3,250-3,700 meters is littered with 1,689 containers and 18 vessels filled with solid radioactive waste taken from the power units of nuclear submarines, five steam generators and 21 circulating pumps, which are not even in any sort of container whatsoever.

For many years the Pacific Fleet dealt with radioactive waste quite simply: it was all dumped at sea. After a recent international scandal in which daring members of the omnipresent Greenpeace organization located and announced to the whole world radioactive dumping by a Russian freighter in the Sea of Japan, central agencies have decreed an end to such operations. The extremely polluted Far Eastern seas, which are being turned into a radioactive dump, got a respite. Liquid radioactive waste is now being stored on shore. No one knows what to do with it.

The people of the Far East have been put in a difficult situation before by the military units based in their region. One need only recall the numerous accidents at sea and on land for which the Pacific Fleet has been responsible. Three years ago the fleet command attempted to carry out an unprecedented operation in Postovaya Bay near Sovetskaya Gavan: disassembly of reactors on board outdated nuclear submarines mothballed there. On orders from Admiral Gennadiy Khvatov, Pacific Fleet commander, the complex task of removing the reactors' radioactive nuclear fuel-containing cores—a task that requires trained specialists and special conditions—was to be carried out by the local garrison. But the sailors had never done that kind of work before, and the bay was not specially equipped for the job. The residents of Sovetskaya Gavan and the town of Vanino learned of the planned secret operation by chance. It cost them a great deal of effort to stop the military from going ahead with the operation.

Now there has been another emergency. The defenders of our maritime borders cannot utilize liquid radioactive waste, the inevitable by-product of nuclear submarine fleet operations. At any moment the coastline and all its inhabitants could take a drink of that waste. As they expanded the nuclear might of the Pacific Fleet military experts gave no thought to safe means of utilizing wastes and disassembling decommissioned submarines. Local residents' health and very lives were not taken into account.

Many very beautiful bays and gulfs along the Russian Pacific coast have long been inaccessible to people. They are literally occupied by military units. Crammed beyond all measure with military equipment, unique natural sites are a depressing sight. In some places decommissioned submarines have been sitting at anchor, aging, for years. Yet experts warn that decommissioned submarines should be decontaminated and components utilized immediately. Everything that presents a danger should be disassembled without delay and disposed of properly. After time has passed it is not only difficult to carry out such operations, but, depending on the technology, sometimes impossible. If, of course, the appropriate safety procedures are taken...

The creation of the Pacific Fleet, the largest and most powerful in the world, cost our country a tremendous amount. Now more substantial expenditures will be required to halt the destructive effect of this monster on our lives. Thus far the Russian Government neither sees nor hears this problem at all.

But the Americans have responded. Watching with alarm the Russian Far East, their troubled neighbor in the Pacific region, they have now become seriously worried. The Bablock-Wilcox Company, which specializes in supplying nuclear energy equipment to the U.S. Navy, has expressed a willingness to provide our navy with the most modern technology for the neutralization of radioactive wastes and utilization of nuclear submarines. Donald Ray, a company representative who visited Vladivostok a few days ago, reported that the U.S. Government, which supports the Bablock-Wilcox initiative, plans to allocate $10 million to implement it. Japanese specialists are also working on a program to help Russia set up special storage facilities for its nuclear materials.

Our military circles have always been very wary of advice from outsiders, particularly when it comes to foreign advisors, and they react very negatively to any interference in the area of their interests. However, today it appears that there is no other option than to cooperate with anyone who expresses a desire to help.

Russia's eastern shore is in great distress. It would appear that it is there that humanity has come to the final frontier, beyond which there lies nothing.

Environment Minister Sees 'No Improvement' in Russia's Ecology

94WN0154A Moscow SEGODNYA in Russian 13 Jan 94 p 8

[Article by Veronika Romanenko under the heading "Eco": "View From the Ministry of Environmental Protection: The New Year Will Be No Better"]

[Text] "If one compares the current environmental situation in Russia with 1992, one unfortunately find that it is not improving and remains very acute," stated Viktor Danilov-Danilyan, minister of environmental protection and natural resources, who held a conference with selected regional representatives at year's end.

Incidentally, it was noted that the drop in production also has its positive aspects: there was a 12-percent decrease in comparison to 1992 in pollutant emissions into the atmosphere from "stationary sources."

Virtually all other pollution indices increased last year, though only slightly. There was an increase in pollutant emissions resulting from the use of low-quality types of gasoline. For example, a Russian-made passenger car produces almost as much pollution as seven U.S.-made automobiles (roughly 21 grams/kilometer per car, as opposed to 3 grams/kilometer for an American car). More than 4,000 tonnes of lead-containing compounds were released into the

atmosphere. Direct environmental damage as a result of these emissions is estimated at more than R3.0 billion [rubles] annually.

The results of observations by experts carried out in the atmosphere around Russia's cities and industrial centers indicates an increase in concentrations of carbon monoxide, carbon disulfide, phenol and nitrogen oxides. During the first half of 1993 a total of 207 cases of maximum permissible pollutant levels being exceeded by factors of 10 or more were reported in 44 cities around the country. There were 88 reported incidents of massive one-time air pollution. According to environmental protection agencies, the damage done by air pollution alone was R280 million in the first six months of 1993.

According to the minister the condition of fauna has also worsened. Populations of many valuable animal species have dropped to dangerously low levels, and fish catches are down as well. The reason is habitat exhaustion, as well as a marked upsurge in poaching.

Another equally important problem for ecologists is emergencies caused by natural disasters and manmade accidents. 1993 witnessed many such incidents. One need only recall the accident at Tomsk-7 in April, the flooding in the Urals, and the numerous explosions in transportation systems and at a number of mines.

A lack of funding and a wide range of other reasons do not permit the minister of environmental protection to hope that the situation will begin to improve in the near future. In Viktor Danilov-Danilyan's opinion, the task for 1994 will be "at the first stage, at least to halt the worsening of the environmental situation."

National Security Council Discusses Caspian Threat

LD0902103594 Moscow ITAR-TASS in English 0942 GMT 9 Feb 94

[By ITAR-TASS correspondent Mikhail Karlov]

[Text] Moscow, Feb 9 TASS—At least four cities and 109 villages with a total population of 197,000, 1,072 thousand hectares of land, and 1,205 kilometers of electric transmission lines on the Caspian coast of Russia can be destroyed by the advancing sea waters soon, bringing the sum or losses to 17 billion roubles (in the 1991 prices), unless emergency measures are taken, the Russian Federal Security Council was told on Tuesday.

The council's ecological security commission has asked the government for 473.5 billion roubles to protect the coast of the Caspian Sea which was recognized an ecological disaster zone.

The water level in the Caspian Sea has been rising by an average 15 centimeters a year since 1978. On the Russian coast 3,220 thousand hectares of valuable land has been swamped, causing economic damage estimated at 4.3 billion roubles (in the 1991 prices).

The cities of Makhachkala, Derbent and Kaspiisk, as well as more than 30 smaller residential centers in Daghestan, the Republic of Kalmykia (Khalm-Tangch) and the Astrakhan region, are already feeling the impact. The water rim is moving inland at a speed of 1-2 kilometers a year. The waves reach up to 20 kilometers inland, the sanitary situation is deteriorating and toxic substances threaten epidemics of plague, cholera and skin diseases.

The commission worked out more than ten other specific recommendations for dealing with the situation caused by the continuing rise of the water level in the sea, which is threatening the existence of many coastal cities in Russia and neighboring countries, as well as off-shore oilwells and platforms belonging to Russia, Azerbaijan, Kazakhstan, Turkmenistan, Iran and Turkey.

Yeltsin Issues Edict on Environmental Protection

LD0502134994 Moscow ITAR-TASS in English 1220 GMT 5 Feb 94

[Text] Moscow, Feb 5 TASS—Russian President Boris Yeltsin has issued the decree "On State Strategy of the Russian Federation on Ensuring Environmental Protection and Stable Development," the press service of the Russian president reported today.

The Russian Government has been assigned to draft and submit to the president in 1994 a conceptual framework of the transition of the Russian Federation to the steady development model, which will ensure a balanced fulfillment of long-term tasks of socio-economic development and the maintenance of a proper condition of the natural environment and the natural resources potential for purposes of meeting the vital interests of the population.

The decree adopted the main provisions of the state strategy of Russia in the sphere of ensuring environmental protection and stable development, including the bringing back to normal of the upset ecological systems in the ecologically unsafe areas of Russia, participation in the solution of some global ecological problems and so on.

Military Academy Develops Pollution Analysis Device

PM0102130794 Moscow Ostankino Television First Channel Network in Russian 0600 GMT 31 Jan 94

[From the "Novosti" newscast: Video report by A. Korovkin and V. Sidelnikov, identified by caption; figures in brackets denote broadcast time in GMT in hours, minutes, and seconds]

[Text] [060846] *[Korovkin over shot of industrial plant exterior]* According to information from the Ministry of the Environment, one-half of Russians drink substandard water, while one-third are subjected to the effects of harmful waste from enterprises with a concentration of toxic substances 10 times higher than the acceptable limit. At the same time, identifying the sources of the pollution and, most importantly, defining its toxicity and measuring the quantity of harmful waste was, until recently, a highly complex and difficult technical task. This problem has been successfully solved in the analytical laboratory of Russia's

Military Academy fo: Chemical Protection,. A unique method of monitoring the environment using lasers has been developed here.

A. Zhitov: *[Laboratory chief, identified by caption]* The originality of this development resides in the fact that this is in point of fact the first time that it has been possible to obtain spectral forms of the biological and chemical composition of aerosols. And in this way, on the basis of the said method, it is possible to develop universal remote laser systems for monitoring air pollution.

Korovkin: The military industry has already developed and indeed produces the remote chemical reconnaissance device "Dal" which, according to the designers themselves, can be employed for ecological monitoring purposes almost without any modifications or additions. Moreover, experts estimate that two "Dal" devices can monitor an area the size of Moscow. *[Video shows scenes from laboratory, equipment, graphs, designs, "Dal" system]* [061007]

Missile Deactivation Progress Reported

PM0302111194 Moscow Ostankino Television First Channel Network in Russian 0700 GMT 30 Jan 94

[From the "Test Range" program: Exclusive report over video entitled "When Missiles Are Dying..." detailing missile deactivation process, attributed in the credits to "Radar" Studio and Ministry of Defense Central Television and Radio Studio, August-December 1993; figures in brackets denote broadcast time in GMT in hours, minutes, and seconds]

[Excerpts] *[070731 thru 070813—introductory passage omitted]*

[070814] [Correspondent over video captioned "Radar-TV" showing missile transporters on the move] The strategic arms reduction treaties concluded between the United States and Russia and known as START I and START II have, apart from verbal support, evoked no steps in response from the other members of the nuclear club. START II is yet to be ratified by Russia. Meanwhile the latter's missiles, including the heavy SS-18, continue to be removed from operational sites. This work was at its height during the summer and fall of last year. As in the past, missile men and defense experts displayed prompt and coordinated action at all the stages of the reduction process right up to the removal of missiles from silos and the draining off of missile fuel components. On the one hand, they were working under pressure of a tight schedule since every missile had to be removed from alert duty on strictly preset days and hours, while on the other hand they had to ensure that all the operations were carried out without any dangerous pollution of the environment ensuing. *[070908] [video shows missile being removed from silo, personnel donning gas masks, fuel being siphoned off]*

[070909 thru 071021] [passage omitted on interview with engineer who says that ecological safety is guaranteed thanks to a closed-circuit system which prevents contact between fuel components and atmosphere]

[071022] [Correspondent over aerial view of missile test range captioned "Radar-TV, Voyen TV"] Our industry cannot do something that it was never equipped to do, in other words to salvage simultaneously up to 2,000 ICBM's, hundreds of thousands of tonnes of special fluids and nuclear and chemical munitions. What is more, we lack the necessary resources.

This also applies to cleaning up the Russian Missile Forces' sole test range which covers an area of 175,000 hectares. During test launches certain parts of the delivery vehicle separate. They contain toxic rocket fuel residue. All this does not burn up in the atmosphere but falls to the ground and into water reservoirs. Two years ago the leadership of the Missile Forces together with (?"Transres"), a special science and production center, tried for the first time to carry out a mass cleanup of the test range, using their own resources. More than 2,000 tonnes of delivery vehicle debris was collected, but only a small part of the test range was cleared.

By agreeing to sweeping reductions of the most powerful and technically most sophisticated missiles, Russia has not only forfeited its status as an influential partner in resolving strategic issues, but it also finds itself in a most disadvantageous position in terms of the need to observe all the necessary ecological and environmental protection safeguards during the elimination of the stockpiled weapons. *[071142] [video shows aerial view of missile test range, test launch, computer graphics, debris littering the test range]*

[071143 thru 071230—passage omitted on officer describing operations to clean up 16,000 tonnes of debris accumulated at the test range]

[071231] [Correspondent over video of operation to remove nose section from silo, captioned "RADAR TV"] Today Russia is reaping the fruits of the most critical period of its military policy when, as a result of cuts in military production, it was forced to extend the guaranteed period of service of nuclear missiles on alert duty. Consequently, the safe service life of 30 percent of these missiles has already expired. And another 30 percent will turn into a potential nuclear threat in two years' time. Russia is faced with the task of scrapping more than 20,000 nuclear munitions by the year 2000. And since the pace of the salvage process is very slow, we may again fall hostages to the nuclear threat, but this time because of being incapable of carrying out mass industrial salvaging of such a vast quantity of nuclear charges.

[071315] The radiation background at the launch site is only just above the permissible limit *[video shows counter reading]*. Furthermore, all the operations are controlled by several specialists simultaneously. Therefore the removal of the nose section at the launch site is by no means the most dangerous operation. *[071331] [video shows operations above ground and detailed view of interior of missile silo]*

[071332 thru 071405—passage omitted showing officer issuing instructions on safety precautions during nose section removal]

[071406 thru 071514—video shows nose section removal operation over largely unintelligible exchanges between officers]

[071515 thru 071603—passage omitted showing Aleksandr Gribov, unit commander, to camera, on safety of handling and dispatch of nose sections]

[071604] [Unit Commander A. Gribov, identified by caption earlier, over video of site being guarded by a soldier, sign reading "Mines," nose section being loaded onto truck] It has to be said that this is by no means the least important or worst of our weapons. Fortunately, it has never been used in practice. But the tests that were carried out showed that both the missile and the warheads are excellent and highly effective. *[071648] [video shows soldier guarding site, nose section being loaded onto a truck, partly over sinister music]*

[071649] [Correspondent over closeup of nose section being loaded onto truck] The nuclear nose cone of the SS-18 missile can carry 10 nuclear warheads. At the moment there is nothing to compare with it in the world.

This unusual cargo will be carried in this neat truck only as far as the nearest depot. Before entering the industrial salvaging process, it has a difficult journey along worn-out Russian roads ahead. *[071713] [video shows warhead being loaded, truck on the move]*

[071714 thru 071741—passage omitted showing Aleksandr Volkov, first deputy commander in chief of Strategic Missile Forces, to camera, on safety regulations governing handling and storage of nuclear munitions]

[071742] [Aleksandr Volkov, first deputy commander in chief of Strategic Missiles Forces, identified by caption earlier, over video of missiles on railroad platforms in a siding in snowy location] We have established two bases for scrapping missiles, the Surovatikha base, and Pibanshur near the city of Izhevsk. *[071805] [video shows missiles in railroad siding, concrete building in the middle distance, closeups of missiles on railroad platforms, partly over sinister music]*

[071806] [Correspondent over video of missiles being dismantled in large hangar] Pibanshur and Surovatikha are Russia's first bases for scrapping ICBM's using resource-saving technologies. Following the removal of the dangerous fuel components, each SS-17 and SS-18 missile will be carefully dismantled. In this way the Surovatikha base will be able to scrap more than 40 heavy missiles a year. This means that thousands of tonnes of expensive metals and alloys will be returned to industry.

As is known, the previous class of missiles—intermediate- and shorter-range missiles—were scrapped by means of explosions. To the general amazement of our compatriots, billions of rubles were turned into ashes and smoke, quite apart from the damage that was done to the environment. This is why the two new enterprises—which, incidentally, have been set up by the missile forces themselves within their department—unquestionably mark a long-overdue step toward savings of state resources spent on disarmament.

For the time being inadequate funding is hampering the entire federal program for recycling ecologically dangerous materials from scrapped weapons. The Surovatikha base could make up this shortage of funds through the sale of part of the salvaged materials to other enterprises for processing. But the latter do not have any money either.

While a search for coordinated action by the ministries and departments interested in industrial recycling is under way at the top, the missile men have to bear the full burden of this work themselves. *[072009] [video shows detailed views of salvage operation with camera switching back to railroad siding at the end]*

[072010 thru 072415—passage omitted on brief statements to camera by Volkov on safety regulations, START I and II provisions; video of silo being blown up with correspondent describing the economic disadvantages of this treaty obligation]

[072416] [Correspondent over video of an SS-18 on a truck, followed by computer graphics, captioned "RADAR-TV" and "Voyen TV"] To replace the multiple reentry vehicle missiles which are being scrapped, Russia is planning to build another multiple-warhead missile [mnogoblochnaya raketa] based on the SS-25. However, as distinct from the heavy SS-18 missile, the new missile cannot be guaranteed to penetrate the opponent's anti-missile defenses, since the SS-18 was capable of releasing, in addition to its 10 warheads, up to 1,000 false targets into orbit. Scientists at the Moscow Heat Technology Institute intend to make up for this forced minus-point in the design of the nose section of the new missile by making these missiles easily re-equipable into the "Start" system which can be used for launches for scientific purposes either right now or in the event of arms reduction. Admittedly, the engineers and designers will have to find the money to further develop this project themselves in order to preserve the scientific potential of Russia's only institute of this kind. *[072540] [video shows computer graphics demonstrating new missile, brief shot of interior of scientific institute, mockup of "Start" system]*

[072541 thru 072800—passage omitted on brief interview with Boris Lagutin, general designer, talking in general terms about the quality of Russian missile design; brief outline by correspondent of tripartite agreement between Russia, United States, and Ukraine over unspecified military facilities]

Environment Ministry Denies Danger From Industrial Waste

LD0102205794 Moscow ITAR-TASS in English 1918 GMT 1 Feb 94

[By ITAR-TASS correspondent Veronika Romanenkova]

[Text] Moscow, Feb 1 TASS—Reports claiming Russia has turned into "grounds for dumping dangerous industrial waste from Western nations are unjustified," says a statement of the Russian Environment Ministry's press service circulated here today in response to a document of the Russian Greenpeace division "Russia: Dumping Grounds for Western Waste."

The ministry admitted a tendency of dangerous waste imports but said it prepares measures to prevent the threat.

According to the Greenpeace report, there have been 96 attempts to bring to Russia 34 million tones of waste within six years. Specialists believe these were mere intentions.

In the words of the ministry, the Russian procedure of industrial waste imports and exports "prevents imports of large batches of dangerous waste to Russia." The Russian Ministry of Foreign Economic Relations issues licenses and the Russian state customs committee controls the waste imports. A license is issued on coordination with the environment ministry; the latter provide for a corresponding examination.

The procedure is obligatory for all, and its violation entails administrative and criminal responsibility.

According to the ministry, territorial environmental bodies have rejected the overwhelming majority of proposals of Western firms and their Russian mediators on the basis of expert conclusions. In 1992-1993 they coordinated licenses on imports of small batches of industrial waste, as a rule, for research purposes.

In order to prevent illegal attempts of dangerous waste imports, the ministry works in close contact with the law-enforcement and environment bodies of several states.

Half of Population Does Not Have Proper Drinking Water

LD0102215194 Moscow INTERFAX in English 2047 GMT 1 Feb 94

[Text] About half of Russia's population uses water which does not meet drinking standards. Two thirds of the towns in the country have no central water supply system and in some regions the drinking water situation "requires urgent measures," due to threat of "irreversible consequences." This was stated by Vice Premier Alexander Zaveryukha, in charge of agrarian issues, environmental protection and natural resources, at a meeting of the Collegium of the Russian Federation's Committee for the Water Supply Industry on Tuesday.

According to Zaveryukha, the Russian Federation still has no program on supplying the population with drinking water, while as a result of "the continuous mass pollution, two-thirds of man-made water sources do not meet the requirements for drinking and fishing reservoirs," and the construction of water supply networks "has been sharply falling in recent years."

The vice premier pointed out that the Russian government intends "to give up inefficient administrative command methods of protecting water resources." A water supply fee should be introduced and the parliament should consider and pass the project already submitted by experts "The Basics of the Water Legislation of the Russian Federation."

Zaveryukha believes that in all industries without exception it is necessary "to more actively pass to economic relations between the state and the users of natural resources." In his opinion, the first step in that direction was the introduction of considerable penalties for the pollution of the environment.

Officials Report on Navy's Nuclear Safety

LD1702135194 Moscow Russian Television Network in Russian 1100 GMT 17 Feb 94

[From the "Vesti" newscast]

[Text] Today's briefing at the General Staff of the Navy was devoted to the Navy's nuclear safety. Rear Admiral Yurasov, head of the Nuclear Safety Inspectorate, said that nuclear and radiation safety norms were revised after the Chernobyl catastrophe. According to Yurasov, these norms are being observed in the majority of atomic installations, atomic subs, and ships.

[Begin Yurasov recording] Considerable financial means are required to maintain the operation of these atomic subs. These atomic subs are a potential source of radiological contamination. *[end recording]*

A serious shortage of personnel to man nuclear installations is another problem of the Navy. There are not enough sailors, warrant officers, and officers. Touching upon the issue of sunken submarines—specifically, the Komsomolets sub—it was noted that it would be more expedient to mothball rather than raise them. The radioactive contamination around the Komsomolets is local and does not represent an ecological disaster. The marines do not regard as necessary the Gosatomnadzor's [Federal Oversight of Nuclear and Radiation Safety] supervision of certain installations; they believe that departmental monitoring of the Navy's nuclear safety is sufficient.

[Begin V. Makarov, deputy director of Gosatomnadzor] What they are proposing runs counter to the approved amendments introduced in the provision on Gosatomnadzor. These amendment were agreed upon with the chief of the General Staff, and I cannot change the list of installations to be monitored. *[end recording]*

Phased-Out Submarines Deemed Potential Radiological Hazard

LD1702150594 Moscow ITAR-TASS in English 1242 GMT 17 Feb 94

[By ITAR-TASS correspondent Sergey Ostanin]

[Text] Moscow, Feb 17 (TASS)—Phased out nuclear-powered Russian submarines may pose a radiological threat, Rear Admiral Nikolay Yurasov, head of the Inspectorate for the Nuclear Safety of Nuclear Power Units under the Russian Defence Ministry, said at a press conference today.

According to Yurasov, the submarines whose service life is over were made radiologically safe. Measures needed for ensuring it continue to be taken. However, much money is needed for keeping the submarines afloat, ensuring their stability and resistance to flooding. The maintenance of phased out nuclear-powered ships, nuclear reactors and obsolete nuclear storage facilities also costs a lot to the Russian Navy.

Responding to the question [by] ITAR-TASS, Yurasov did not mention the exact amount of money needed for resolving those problems and said the figures should be updated. Yurasov stressed that in 1992 the government allocated to them only 15 percent of the money they really need, while in 1993 they did not receive anything at all. According to Yurasov, the government is pinning its hopes on the federal budget, while most local administrations are doing nothing to help the navy resolve its financial and ecological problems.

In 1993 150 nuclear safety inspections were held at Russian nuclear power units, Yurasov continued. Thirty-seven instructions were issued for carrying out work which is dangerous from the radiological point of view. On the whole, no radiologicaly dangerous situations or conditions for them were registered at the nuclear power units of the Russian Navy in 1993. "Safety is being fully ensured at all nuclear power units," Yurasov stressed.

Investigation Into Komsomolets Submarine Disaster Continues

LD1902122694

[Editorial Report] Moscow Ostankino Television First Channel Network in Russian at 0840 GMT on 19 February broadcasts an ecological program "People's Earth," which carries a 10-minute feature on the continuing investigation into the sinking of the Komsomolets nuclear submarine on 7 April 1989 in the Norwegian Sea near Medvezhiy island. Video shows nuclear submarine in Arctic waters, investigating expedition with underwater apparatus, clips and stills of Komsomolets on the seabed, interviews with officials

"The Komsomolets is not the first nuclear submarine to suffer an accident but it is the first whose nuclear reactor has leaked."

However, as has become known, thanks to research carried out by Russian shore-based scientists, the reactor does not pose a serious ecological threat. The aim of the latest expedition by the Committee for Conducting Special Purpose Submarine Work [KOPRON]—which has kindly given our program exclusive rights to show its video material—was to assess the situation concerning the warheads. If plutonium escapes into the sea it could cause serious ecological danger.

"The latest data from the chemical analysis taken from around the plutonium warheads is not comforting. KOPRON is being disbanded and so are the mobile structures carrying out active preparations for the conservation of warheads on the Komsomolets."

Twenty Thousand Nuclear Safety Violations in 1993

LD1502214494 Moscow ITAR-TASS in English 1851 GMT 15 Feb 94

[by ITAR-TASS correspondent Veronika Romanenkova]

[Text] Moscow, Feb 15 TASS—Some 20,000 violations of nuclear safety were registered in 1993 by the Russian state inspection for nuclear and radiation safety.

The inspection visited 14,500 Russian enterprises using nuclear materials or radioactive substances. The extreme measure of enterprise halt was used 78 times, Inspection Chairman Yuriy Vishnevskiy told a news conference here today.

As for nine nuclear power plants with 29 power units, there were no accidents related to melting of the reactor active zone and discharge of considerable amount of radioactive substances into the atmosphere, same as big fires with the exception of several spontaneous fires and smoking up.

A total of 38 percent of accidents at nuclear power plants happened through the fault of personnel, a considerable amount of violations is related to malfunction of equipment and system elements.

A major reason for nuclear safety violations is the lack of money. The nuclear branch was the only Russian one that preserved its output in 1993, but it fails to receive payment for electricity consumption. In the words of Vishnevskiy, the Russian Ministry of Finance did not allocate a single ruble in 1993 to raise safety of nuclear power plants. The 1994 planned allocations of 114 billion rubles will hardly be received as well.

Another problem is the lack of corresponding legislation. Russia is the world's only state that does not have laws on the use of nuclear energy and state policy on treatment of radioactive waste. Draft documents were kept by the former Supreme Soviet for 18 months, but no decision were taken.

Due to the absence of legislative acts, the inspectors cannot invoke efficient economic sanctions against violators of nuclear safety. Today's fine for violation of nuclear safety rules by an individual is 100 rubles (six cents).

Plan for Trilateral Probe of Sea of Japan Nuclear Waste

LD1602000094 Moscow ITAR-TASS World Service in Russian 1353 GMT 15 Feb 94

[by ITAR-TASS diplomatic correspondent Denis Perkin]

[Text] Moscow, Feb 15—The Japanese Embassy in Moscow reported today that the meeting of the commission of experts from Russia, Japan, and South Korea which took place in Vladivostok has worked out a detailed plan for carrying out a joint trilateral expedition to study areas of the Sea of Japan where radioactive waste has been discharged. The plan of the expedition has been drawn up in accordance with the decisions adopted during the Japanese-Russian summit meeting and at the second meeting of the Japanese-Russian working group in October and November last year.

In the period from 15 April to 14 May 1994 the expedition, with the participation of specialists from Russia, Japan, South Korea, and an International Atomic Energy Agency representative will visit seven regions of the Sea of Japan in which it has been established that discharges of waste previously took place.

Nuclear Wastes To Be Stored, Processed By Mobile Unit

LD1602134394 Moscow INTERFAX in English 1136 GMT 16 Feb 94

[Text] The Pacific Fleet's liquid nuclear wastes (LNW) will be safely stored or processed before the end of 1994. Nikolay Bisovko, a senior official in the Federal Supervision of Nuclear and Radioactive Security, who looks after the safety of nuclear power plants used by the country's defense agencies, told Interfax that a mobile LNW processing unit would be built in the Maritime Territory at a cost of 1.2 Bn [billion] rubles. "We believe that it will be assembled in three to four months and become operational in 1994," he said.

He added that a stationary processing unit had to be constructed in the area. The unit will need filters and other parts that will have to be manufactured in numerous factories.

Bisovko thinks said that an ecological study would precede the construction of stationary LNW processing units. It was hard to say at this stage how much time and funds would be required for that project.

Tula Oblast To Be Experimental Base for Ecological Reform Program

94WN0156B Moscow OBSHCHAYA GAZETA in Russian 28 Jan 94 p 2

[Interview with Sergey Vasyutin, deputy head of the Tula Oblast administration, conducted by Igor Filimonov: "Experiment on the Scale of the Country"]

[Text] **An interdepartmental organizational and coordinating council on the environment has been established. Behind the unwieldy name lies an environmental experiment that has been conducted in Tula Oblast. It was approved by the Russian government, which decided to back it up with the participation of various ministries and committees. The council is supposed to unite their efforts. Rarely has such a broad-scale program of change come from a region, rather than from the central government. That is why Sergey Vasyutin, deputy head of the Tula Oblast administration, has been made head of the interdepartmental council. An OBSHCHAYA GAZETA correspondent got in touch with him by phone.**

Filimonov: Why was it in your oblast that it was decided to conduct the experiment?

Vasyutin: Tula Oblast has the most highly stressed environmental situation in Russia. The level of pollution by industrial waste is high. Seventeen percent of the drinking water does not meet health standards. The consequences of the Chernobyl accident are having a strong impact. Just 14 percent of the children lack health abnormalities. But there is a powerful research base in the oblast for studying the impact of environmental pollution on human health. A unique set of methods for monitoring the human environment and a system for the early diagnosis of diseases have been developed by Oleg Martynov, a professor at Tula University. Moreover, our administration was stubbornly persistent and got approval at the highest level for a program for improvement of condition of the environment. More than 3,000 proposals have already been received from scientists and entire research institutes. The interdepartmental council (and it includes the Russian Academy of Sciences Vice-President Frolov; Academy of Medical Sciences President Pokrovskiy; Danilov-Danilyan, the minister of the environment; and Sokolov, chief physician of the Sanitation and Epidemiological Inspectorate) will develop a normative and legal basis for carrying out environmental reforms in Russia.

Filimonov: I know that not everything went smoothly with the program, especially with its financing. Do you think that such powerful support will help break down any fortresses?

Vasyutin: We spent 18 months trying to get approval for the program in the ministries. But even when there are directives by Yeltsin and Chernomyrdin ordering the money to be appropriated, lower-level bureaucrats easily rescind them. At the last moment, thanks to Danilov-Danilyan, I managed to return the program to the list of federal financing. The Ministry of Finance had written it off as lacking promise. References to the country's leaders have not helped. The clerks simply brush them aside: "We have a lot of such instructions. We've gotten used to them."

Filimonov: Environmental protection is often associated with emergencies, but for some reason there is no representative on the council of the Ministry for Emergency Situations. Why is this?

Vasyutin: We have relations that have already been set up. The methods proposed by Martynov not only presuppose an automatic tracking of any increase in the level of pollution, but make it possible to predict emergency situations. An automated monitoring system has already been put into operation at Yasnaya Polyana. The only instructional-methods center in the country for training environmental-protection specialists has been established on the basis of the civil defense system. We are planning to create a special curriculum for schoolchildren called "Island of Survival" in which we will prepare students for action under emergency conditions.

Filimonov: The council, by bringing together the representatives of several ministries and committees, is seemingly going planning to break down departmental barriers and attract scientist-practitioners from all branches of science.

Vasyutin: That is our dream, We will enlist scientists only on a contractual basis and will reject the use of huge institutes that require immense amounts of money to support their administrators. A doctor of sciences working for us will receive not 50,000 rubles, as one does at the present time, but several times that amount. Money from the sale to the West of our technological developments for the processing of waste will also belong to the developers.

Filimonov: Sale to the West? But we have already gotten used to the idea that our technologies are the most unadvanced.

Vasyutin: It is simply that no one has heard about a lot of them. In Germany our specialists demonstrated calculations

pertaining to the development of a unit for extracting gasoline and diesel fuel from waste rubber. Western scientists were convinced that such a thing was not even theoretically possible. But the Platonov pilot unit is operating in Tula. If we are able to implement the environmental program, Russia will be able to get the opportunity to assume an equal footing with the other countries of Europe and America.

Environmental Positions in Pre-Election Party Platforms Analyzed

94WN0160A Moscow SPASENIYE in Russian No 2, Jan 94 pp 1-2

[Article by Aleksey Yablokov: "Who is on the Green Platform? Comparative Analysis of the Ecology Sections of Party and Block Electoral Platforms"]

[Text] It often happened before that deputies elected to the agencies of state power on the basis of ecological slogans soon forgot about them. Today the situation must change, since now the responsibility for fulfilling such promises is borne by a specific political party or association, which in the not too distant future will once again have to turn to the voters for support in the next elections. **Our task is not to allow the politicians to forget their ecological promises.** Therefore, it is rather important specifically now to recall and analyze the ecology sections of the pre-election platforms.

In the programs of the "Future of Russia—New Names" block, the LDPR [Liberal Democratic Party of Russia] and the Communist Party of Russia, sections on ecological policy or program proposals on the resolution of ecological problems have been absent altogether. The programs of the "Women of Russia" movement and the "Dignity and Charity" block contained only a few fragmentary statements of the most general nature. The most complete representation of Russia's ecological problems appears in the programs of the constructive-ecological movement "Kedr," "Choice of Russia" and the "Yavlinskiy-Boldyrev-Lukin" block ("Yabloko").

By its broadness of scope in encompassing political problems in the sphere of ecology, "Kedr," is, of course, in first place. Second is "Choice of Russia," third—the "Party for Russian Unity and Accord" (PRES), and fourth—"Yabloko." In terms of the depth of economic development of ecological problems, the priority undoubtedly goes to PRES, while the other three places are shared by "Choice of Russia," "Yabloko" and "Kedr." In terms of the detailed nature of development of specific problems presented in the pre-election platforms, the leaders are "Choice of Russia," "Kedr" and the Agrarian Party of Russia.

We must say that the problem of the economic mechanism of regulating the activity of ecologically hazardous industries and natural resource utilization has gained greatest recognition among this group of political parties and movements. Five parties and movements have included some kind of declaration to this effect in their platforms. Four parties and movements have included demands on compensation of ecological loss and rational utilization of nonrenewable natural resources in their platforms. Three parties have declared the need for tightening procedures for ecological expert analysis of all projects, programs and decisions by agencies of state power and administration, and three parties have a program of first priority measures in the field of ecology.

On the whole, however, analysis shows that none of those who aspire to the State Duma of Russia from the all-federal electoral district have presented a sufficiently comprehensive program for the ecological revitalization of Russia. Even if we put together all the announced positions, all the questions of ecology raised in all the pre-election platforms, they would still not reflect in full measure the ecological problems facing Russia. We get the impression that the ecological sections of all the parties and movements were hastily written and weakly developed. I must conclude with disappointment that the deputies who have gained membership in the State Duma according to the party lists will not be able to provide objective and in-depth solutions to the ecological problems facing the country. We may only hope that the deputies coming to the State Duma from regions for which the state of the environment is not a purely theoretical question, but a most vital one, will be able to correct the legislative activity of the parliament in the sphere of ecology.

An analysis of the presence of ecologists among the candidates for deputy in the State Duma presented by party lists also allows us to make certain curious observations. We will note that under such an analysis, ecologists were considered to be not only those candidates who actually called themselves ecologists, but also biologists, glaciologists, and specialists having a higher education in the field of natural sciences. With such a broad approach, it turned out that, within the voting list of "Kedr," 45 percent of the candidates for deputy could be called ecologists. However, unfortunately this movement found itself outside the bounds of the State Duma. Second in the number of ecologists was the "Dignity and Charity" movement, with almost 14 percent. But, alas, it too was unable to bring its representatives to parliament. In third place was "Yabloko," with almost 6 percent of the candidates for deputy who could be called ecologists. In the "Women of Russia" movement, 5 percent of the candidates for deputy could be called ecologists, in "Choice of Russia"—4 percent, in the RDDR [Russian Movement for Democratic Reform]—3 percent, in the PRES—2 percent, in the DPR [Democratic Party of Russia]—1 percent, and among the agrarians and the LDPR—less than one percent. In last place were the communists, whose electoral list did not contain a single person who could be called an ecologist.

A comparison of these data with the analysis of the pre-election platforms of the parties and movements allows us to draw certain conclusions. As we have already stated, "Kedr," "Choice of Russia," and PRES had more or less well-developed ecological programs. However, by the number of ecologists presented in the electoral lists, PRES is only in eighth place, while "Choice of Russia" is in fifth

place. Thus, despite the notable presence of ecologists in the other electoral blocks, this did not sufficiently influence the development of ecological problems in the pre-election programs of the blocks. This may indicate either a random selection of candidates for deputy, or an insufficient participation of these candidates for deputy in the preparation of the pre-election platforms of their parties and movements.

Yablokov Resigns From Presidential Ecology Adviser Post

94WN0155C Moscow MOSCOW NEWS in English No 2, 17 Jan 94 p 3

[Text] On December 29 the President of Russia signed a decree on the resignation of Alexei Yablokov, adviser for ecology.

"I have resigned at my own will," Alexei Yablokov told an MN correspondent. "I have not seen the President in over six months. Besides, there is much talk about the abolition of the office of advisers. Why should I wait? I shall work at the Security Council. Meanwhile, the ecological situation in Russia, as most experts admit, is now close to disastrous."

Greenpeace Official Views Movement's Priorities in Russia

94WN0155B Moscow MOSCOW NEWS in English No 1, 10 Jan 94 p 13

[Interview with Dmitry Litvinov, coordinator of the Greenpeace of Russia organization, by Dmitry Ukhlin: "Greenpeace: We Will Work With Any Party"]

[Text] **Q.: What event marked the start of Greenpeace's involvement in Russia?**

A.: In the USSR we began in Kiev with the Children of Chernobyl project. In 1990 our vessel sailed to Novaya Zemlya to protest against nuclear testing. At that time we were held in custody for more than two weeks. The second time we sailed there was last year to document the Russian Navy's dumping of nuclear waste and spent reactors from nuclear submarines in the sea. Our boat was arrested and our ship Solo was fired on and captured, moreover, in international waters. We were again held in custody for a week. As a result, a governmental commission was formed under the chairmanship of Alexei Yablokov, adviser to the President on matters of ecology. We secured what we wanted to achieve. Today, Greenpeace of Russia stands already quite firmly on its feet.

Q.: Whose money does Greenpeace owe its existence to?

A.: The system of our financing took final shape in the mid-1980s. We take no money either from governments and private companies or from any funds whatsoever. Individual donations account for 99 percent of Greenpeace's money and 1 percent comes from the sale of T-shirts and souvenirs. Every national organization, collecting individual donations in its own country, allots 22 percent for Greenpeace International. This money is distributed among the others, mainly those who are just beginning their work and do not yet have considerable funds of their own as in Japan, for example. Or else it is apportioned for large-scale international acts—today the biggest of them is under way in Britain where we want to close down the Thor factory used for recycling nuclear weapons. Huge sums have been allotted for this purpose, and victory is already just around the corner.

Q.: What are Greenpeace's priorities in Russia?

A.: We protest against the production of plutonium in the course of recycling used nuclear fuel. In general, nuclear power engineering is a threat for the whole world, not only for the inhabitants of areas adjacent to nuclear power plants.

Q.: In other countries Greenpeace is fighting against the dumping of toxic wastes. They are taken to Russia—and here Greenpeace doesn't let them in. Am I right?

A.: Quite right. We want to make sure that there should be no toxic waste in general. And this is quite feasible as technical ways to solving the problem already exist.

Q.: It is impossible to carry out serious ecological work in a country without getting in touch directly with its power structures. How does it take place in Russia?

A.: We are continuously working with the authorities. And, while not being a political organization, we secure any ecological victory we can at a political level. We worked with the Supreme Soviet and we will also work with the new structures in all the regions. If a person responsible for the adoption of one or another bill does not listen to our arguments, there is a need for recourse to pressure—through the press or from among that person's constituents. But for me it is absolutely unimportant what political views this or that deputy may have.

We are delighted by the Constitution's adoption because presidential power has been very weak in responding to our actions. This is particularly visible in the localities where the governor appointed from Moscow has absolutely no idea about local problems and is not interested in their solution—in contrast to the now dissolved local Soviets. However bad they might have been, they were closer to the region's population.

Q.: The following opinion of your organization exists: Greenpeace is good, of course, they are young enthusiasts, but they are often drawn into not altogether clean games, being used either in rival "settlements" or in politics. How do you respond to this?

A.: Well, of course, in America Greenpeace is a "hand of the KGB" and in the USSR it used to be a "hand of the CIA." In Sweden we are in general a "hand" of both the KGB and the CIA simultaneously. All this is rubbish. In this organization I have never encountered dependence on any political or economic situation whatsoever. Russia's Ministry of the Nuclear Power Industry says, for example, that Greenpeace wants to close Russian nuclear power plants in favour of German ones. For those who know how hard we have "worked" on German atomic power stations this is simply ridiculous.

Q.: And the last question: what is the biggest headache for Greenpeace today?

A.: The ozone hole. The latest information from American satellites is such that in 1993 it has increased more than was predicted. No way out has yet been found. For the time being we are not working on this issue in Russia although its "contribution" to the problem is enormous.

Icebound Toxic Chemical Barges Pose Threat to Amur River Ecology

94WN0155A Moscow MOSCOW NEWS in English No 1, 10 Jan 94 p 13

[Article by Yelena Matveyeva; first paragraph MOSCOW NEWS comment]

[Text] A string of barges hauled along by a mighty tugboat is now icebound in the lower reaches of the Amur.

The vessels frozen in the middle of the river threaten an ecological catastrophe, not only in the lower Amur but all along the great Far Eastern river, because the barges carry tons of toxic chemicals destined for use in some technical operations at the Mnogovershynnyi ore-dressing plant.

At the start of the navigation season some local inept "managers" dispatched the caravan from Komsomolsk-on-Amur to Nikolayevsk, on a long trip down the river, unmindful of the consequences. As we know, the expedition never reached its destination, finding itself stuck in ice. Ecologists insist that the hazardous cargo must immediately be removed from the river. But in order to do this, it is necessary to lay a winter road to the barges from the settlement of Mnogovershynnyi that would span 200 km and stretch across ice-covered bogs and ice hummocks on numerous smaller rivers. The project will require a lot of machinery and quite some time. Special motor vehicles will have to be laid on to evacuate the toxic reagents. The locals are not yet ready to mount this kind of large-scale rescue operation. Meanwhile, residents of coastal settlements have started "appropriating" the cargoes, according to a time-honoured Russian custom, in the belief that they can come in useful in the household. A goodly proportion of the hazardous load is already scattered across Amur ice and coated with snow banks and drifts. In the spring all that will find its way into the river which until recently was believed to have the world's largest fish population. Today the Amur is in the fourth category of the water pollution table for major rivers which means its waters cannot be used, and much, less, consumed by man.

Environment Minister Responds to Criticism by Yablokov

94WN0153A Moscow NEZAVISIMAYA GAZETA in Russian 27 Jan 94 p 6

[Article by Viktor Danilov-Danilyan, minister of environmental protection and natural resources, under the heading "Satisfaction": "Response to Persistent Critics: 'No Normal Economy Can Be Built Without a Normal Environment'"]

[Text] My interview in NEZAVISIMAYA GAZETA (No 251 (675), 30 December 1993) drew an extremely emotional reaction from A. V. Yablokov, the chairman of the Security Council's Interagency Commission on Ecological Safety (NEZAVISIMAYA GAZETA, 13 January 1994). Neither I nor anyone else in the environmental protection system was surprised at that reaction—we have long since become accustomed to Aleksey Vladimirovich's incompetence and emotional outbursts. But I do feel compelled to write to the newspaper again because that incompetence caused the distortion of certain facts that are quite obvious or else easily verifiable, as well as incorrect and subjective interpretation of other facts and such exaggeration that the likelihood of readers being misinformed is simply too great to ignore.

Provisionally—but only provisionally—one could divide Yablokov's "response" into three section: firstly, a description of Russia's "terrible" environmental problems, secondly, a tale of how the Ministry of Environmental Protection and Natural Resources, deprived of Mr. Yablokov's skillful leadership, either cannot or will not function and, finally a third section containing assertions of a political nature which clearly reek of denunciation.

Let us begin with the most simple fact, and the thing that evidently enrages my opponent most of all: my election as deputy to the State Duma. I was elected on a slate of candidates from the Russia's Choice association, and I was elected in Nizhegorod Electoral District, because the association's slate was divided up into geographical districts, in full compliance with the Election Statute. I did not lose anywhere. Nor did I attempt to register anywhere except in Nizhniy Novgorod.

So why did Yablokov not even bother to inquire of the Central Elections Committee exactly how I got elected? And along those same lines, what does the word "self-appointment" in the final paragraph of his article mean? Could it be that Yablokov thinks I appointed myself minister? One thing is clear: that kind of mistake is impermissible not only for a politician, but for any state official, even one who stands apart from politics (though at one time Yablokov was active in politics and served as a USSR people's deputy).

Now let us turn to ecology and begin with organizational and administrative matters. Unfortunately, at this time it is by no means just the Russian Federation Ministry of Environmental Protection and Natural Resources that is responsible for the environment, the state of natural resources and natural resource use in Russia. In addition to it there are at least 11 other federal agencies dealing with those matters, and six of those organizations (the Russian Federation Committee on Fishing, the Ministry of Agriculture's Hunting Department, Russian Federal Oversight of Nuclear and Radiation Safety, Russian Federal Mining and Industrial Oversight and the Russian Federation State Committee for Sanitary-Epidemiological Oversight) have always been wholly independent of the Ministry of Environmental Protection and Natural Resources. Yet Yablokov holds me accountable for all of them.

When I talk about the results of our efforts, about our problems, the means of solving them and our capabilities, in the first approximation I am referring to a framework established by current legislative acts. In addition one must also take into account the actual social and economic

situation in the country, the things that society will agree to do and the things that it plainly will not accept at this time. Things are very comfortable when the GNP is rising and the centrally distributed portion thereof is increasing—in that case everyone can be allocated a little bit more, and high-priority areas (environmental protection, for example) can be given more than anyone else. But if the amount of money being distributed is not growing, then one area can only receive something at the expense of another (for example, the pension fund, health care services, education, science, culture, etc.). It is even worse when the GNP and the centrally distributed portion thereof are decreasing. In that case the amount of funding received by each section of the state's budget also decreases, and in order to increase allocations in one area it is necessary to impoverish other areas even more. Add to that the fact that they are already losing money due to the worsening economic situation. One must have exceptionally high priority in the eyes of society to get additional funding under these conditions. But of course Yablokov is aware that the declining standard of living, higher crime rates, unemployment, political problems stemming from the collapse of the Soviet Union and many other things have relegated environmental protection to a place of very low priority in public opinion. Under these conditions one must look at things realistically and ask for whatever society is willing to give. Even if that means taking a purely market-oriented position and framing the issue like this: what is better in terms of improvement in the environment's priority ranking—constant performance of requiems, or reasoning and information based on the actual functioning of the environmental protection system? I am convinced that the latter is better. Yablokov writes: "...budgetary funding for the field is such that the entire Russian Ministry of Environmental Protection system is on the verge of collapse." As for collapse, that is an outright lie, and just show me anyone whose budgetary funding situation is any better! Without the slightest effort I could name 15 ministries and agencies where things are worse.

If the environmental situation were catastrophically bad throughout the entire territory of Russia that would be a death sentence for all of humanity. It is strange that Yablokov has somehow overlooked the biosphere as a whole and the role played in it by our "golden ecological reserve"—the more than one-third of Russia's territory that remains virtually untouched by commercial activity (7-8 million square kilometers). Fortunately, overall this is not yet a catastrophe, it is a problem, and one which can and should be solved.

One must not forget that 30 years ago an extremely severe environmental situation was observed in many regions of Europe, the United States and Japan. The situation there often coincided exactly with what we are currently seeing, primarily in metal-manufacturing cities, in Baykalsk and in industrial centers in the Urals and the Volga region. The post-industrial countries have solved this problem, though one must admit that they have done so largely at the expense of the Third World (and the world at large). I am convinced that we will also solve it, and we will attempt to do so not at anyone else's expense, using our own scientific and technical resources, instead of exporting environment-intensive types of production abroad. I have written on many occasions about the fact that that process could begin in Russia together with an economic upturn, that solutions to the problems of the economy and the environment must be implemented simultaneously, that introduction of the new technologies that will allow our economy to lower its overhead and improve its product quality and competitiveness on the world market will at the same time make it possible to achieve radical changes in the interaction between the economy and nature. No, there is no way to build a normal economy without a normal environment. But equally pointless is the position that says first the environment, then the economy. What is needed here is calm calculation, persistent day-to-day efforts to assess and monitor compliance with decisions, environmental inspection, further development of the economic mechanism for environmental protection and natural resource use (which even now is functioning just fine) improvement of the tax system, and development of environmental protection legislation. To many people that seems pretty boring, and most of these are things you would not talk about at a demonstration, for example, but the future of our environment and the ecological health of our country will depend primarily on these efforts.

I am surprised by the number of scientific errors constantly made by Yablokov. In what scientific source did he read that there is an ozone hole over the Northern Hemisphere, and over Russia in particular? Over the Antarctic—yes, there is, or rather there is a hole that appears and disappears depending on seasonal variations. But the only thing that has been recorded over the Northern Hemisphere is a depletion of the ozone layer—fortunately we still have a long way to go before we have a hole. The causes of this extremely unpleasant phenomenon did not come about in just the past three to five years. Large-scale production of ozone layer-destroying chlorofluorocarbons goes back several decades, and many of them continue to "live" in the atmosphere. The effects of those that are already there will only cease several decades from now. Yet reading that particular passage in Yablokov's article the uninformed reader could well think that the Russian Ministry of Environmental Protection has through its bungling created an ozone hole in the past two years. Things that can be forgiven an environmentalist speaker addressing a rally are unpardonable coming from a corresponding member of the Russian Academy of Sciences, just as they are unpardonable coming from a high-level government official.

Or consider this excerpt: "Since the state of the environment is responsible for roughly 30 percent of our health, one year out of the three years of decrease in average life expectance in 1993 is due to the environment." But just what is "30 percent of our health?" After declaring rates of illness a health factor, Yablokov draws this astounding conclusion: since roughly a third of the reported illness rate is attributable to the environmental factor—according to him—then consequently for every three years of decline in life expectancy one year is due to that factor. How can one respond to that? Doctors are well aware that disease rates

are not so simply and directly connected with life expectancy, especially if one considers only reported illnesses based on hospital records (as is done in virtually every study).

Yablokov seems very prone to mistake his claims for the final authority on truth. In his opinion, the minister "delayed for more than a year the development of a system of measures stemming from the decisions by the U.N. Conference on Sustainable Development signed by Russia in Rio de Janeiro." It is a well-known fact that those decisions were signed by more than 150 countries of the world, and I would like for Yablokov to name me even five that have approved any such systems of measures at the governmental level. The Russian Ministry of Environmental Protection in conjunction with other affected ministries and agencies has in fact submitted a draft plan to the government. Yablokov leveled the same charge at me at a meeting of the government's commission on environmental protection and natural resource use but, as is his custom, did not stay until the end and left the meeting before I was able to reply. For that reason he remains ignorant of the arbitrary nature of his assessment.

The Russian Ministry of Environmental Protection complies with all legal standards, laws and sublegal acts and cannot, as an organ of state executive authority, operate in any other way. At the start of this letter, addressing the ministry's tasks, functions and rights, I wrote: "in the first approximation." The second approximation clearly is to consciously and purposefully change guidelines that do not satisfy the environmental protection system, based on consideration of principle and an overall scientific assessment of our tasks and functions. Not to violate the guidelines, but rather to change them, acting within the bounds of the law. We are very dissatisfied with the current "Statute on the Russian Ministry of Environmental Protection and Natural Resources" and have prepared a new version. We have gotten approval for it from all ministries and agencies and we are now waiting for government approval, but unfortunately due to the government's reorganization that approval has been delayed. We are in many ways dissatisfied with the current law "On Environmental Protection," but the we have prepared a draft of a new federal law to be entitled "On Environmental Protection and Sustainable Development" and are ready to submit it to the State Duma in the near future. True, if it were not for the parliamentary crisis we would have done so months earlier. All of this adds up to not very favorable conditions surrounding the ministry, but I am not inclined to keep count of our defeats, otherwise one would have to regard the entire history of any ministry as an unbroken series of defeats. These are just difficulties, the kind that are quite normal for any aspect of government work and for any ministry or agency. We do not overly dramatize the situation. We are doing our jobs. Incidentally, a brief report on our work is included in the state reports I have already mentioned, and is submitted to the government on a monthly basis, in addition to our annual report. Yablokov should be familiar with all these materials, it just seems that he has no interest in them.

Now a word about the All-Russian Congress on Ecology and Environmental Protection. This is definitely a useful idea, and the Russian Ministry of Environmental Protection has been an active supporter of it from the start. But convening a congress without any preparatory work would be absolutely pointless. Major organizational preparations are required. Nor will a program for Russia's ecological revival come about by itself. It will have to be developed. All that takes money, people to do the work and an appropriate organization. At a board meeting of the Russian Ministry of Environmental Protection this matter was considered in the presence of Yablokov, who stated that he wanted to be head of the organizing committee that would organize the congress. The embarrassed board members said nothing, and no decision as to who should be assigned to head the organizational committee was made at that time. Firstly, it is a well-known fact that in other countries such events are usually headed by the president, the vice-president or the prime minister, not by an advisor. Secondly, Yablokov does not have any substantial apparatus supporting him, and that means the whole organizational burden would fall on the Russian Ministry of Environmental Protection. We are also very familiar with Yablokov's leadership style, and we were simply horrified at the prospect. The Russian delegation to the Rio conference was headed, not too successfully, by A. V. Rutskoy, whose status would be fully appropriate for the head of an organizing committee. As for the assertion that I need "political closeness to Rutskoy," that statement could only elicit laughter from anyone who has the slightest familiarity with the issue. Incidentally, in terms of the "mournful tone" of his environmental speeches A. V. Rutskoy has always been very close to A. V. Yablokov. There is a great deal of evidence that I have never sought political closeness to Rutskoy, and Yablokov himself could call some to mind if he would try. Back in the fall of 1992 there was no mention of political battles in connection with the election or anything else of the kind. As for me, I have never betrayed my democratic beliefs and my liberal economic concepts, and there is no way that I can regard Rutskoy as an ally based either on psychological makeup or ideological considerations. As for the assertion that he has no use for me whatsoever, I have never had any doubt about that.

Where is the environmental program, Yablokov asks? I have already mentioned it. It is the document that has been submitted for government approval, prepared in accordance with the decisions of the U.N. conference in Rio de Janeiro and the followup conference on "The Environment for Europe," held in Lucerne a year later. The document was completed exactly on schedule. As for why "our government has avoided further developing and implementing it," that is a question that should be addressed to the head of government, not to me. In a postscript to his response to me Yablokov states that he intends to focus his efforts on the Russian Security Council's Interagency Commission on Ecological Safety. Of that commission he writes: "The commission's decisions... are subject to review by organs of state authority..." It is obvious that it is precisely authority that attracts A. V. Yablokov, the authority to be irresponsible, and that has always been his position: he has monitored and instructed the ministry and sent it almost 1,000 letters in a year and a half, yet has never been accountable

for anything. But he has a very dim concept of how to use authority. The same is true now: I look at his commission's plans and I can see that he will be lucky if one-twentieth of them will ever actually come before the Security Council. All the rest will be just static, another source of annoyance for those who have to implement them, those who will once again be issued tens and hundreds of guidelines to follow. Though head of the Security Council's Interagency Commission, Yablokov is not even clear on how the council functions, which issues it considers and what kind of decisions it makes. In MOSKOVSKIYE NOVOSTI (9-16 January 1994, No 2/699) A. V. Yablokov, commenting on his resignation from the post of presidential advisor, wrote: "I have not seen the president in the past six months." I think the president is right: the Ministry of Environmental Protection and Natural Resources prepares information and analyses on all environmental issues, so there is no need for any intermediaries.

P.S. As this article was being prepared NEZAVISIMAYA GAZETA (No 13 (689), 21 January 1994) published another letter taking exception to my interview. It had the same hallmarks as the other, i.e. an extremely sloppy handling of facts, rumor-mongering and disregard for the law permeating virtually every line, and these things naturally lead one to conclude that all these opinions stem from a single source.

Academicians' Claims Regarding History of River Diversion Project Disputed

94WN0159A Moscow IZVESTIYA in Russian 14 Jan 94 p 14

[Article: "No One Wants To Be Guilty of an Ecological Catastrophe"]

[Text] **Academicians Sergey Zalygin, Dmitriy Likhachev, and Aleksandr Yanshin published in our newspaper an extremely sharp article, entitled "Environment of Extinction" ([No.] 200, 20 October 1993]. The authors considered it to be their task to point out the primary causes of the ecological blind alley—the actions of the economic ministries during the years of the "great construction projects" that destroyed the environment (primarily, the activities of Minvodkhoz [Ministry of Water Management] when the project for diverting the northern and Siberian rivers was being created). They also see their task in revealing the facts in the history that has led us down the ecological blind alley.**

Many readers are in total agreement with the authors of the article and write to us that "Minvodkhoz, together with certain scientists, inflicted colossal damage on our country. That damage consists of the completely wasted tens of billions of rubles from the state budget at that time; the ruination of agriculture in many regions where millions of hectares of land that had been 'improved' by water reclamation were written off; and the party leaders' crimes that they committed hand in hand with the people in water management." They also write, "The water management partocracy is an as yet unrevealed and gloomy page in our economic and political history, and the role of the scientists in this secret system is a unique phenomenon that, sooner or later, will be deciphered."

At the same time, Candidate of Technical Sciences V. Aleksenko takes a negative attitude toward the academicians' pessimistic position. She feels that "the resolution of the problem of the ecological crisis must be a party program of the social-democratic movement at the present-day stage. The way out of the ecological crisis has a concrete and accessible solution." But she ends her letter by saying, "Despite all the offensive words said by me with respect to the authors of the article 'Environment of Extinction,' their criticism of the state ecological service, and their brave opposition to the official structures, evoke a tremendous amount of respect and contribute to the awareness of social and ecological tasks."

However, in their article the academicians do not simply "oppose the official structures." In their article they give the names of specific people with whom, over the course of many years, they discussed the river diversion project. And that, naturally, evokes the sharp objections of those who were mentioned. In particular, the employees of Ministry of Ecology.

It is necessary to speak separately about a letter to the editor that was writtebjects n by F. V. Voropayev, corresponding member of RAN [Russian Academy of Sciences], who since 1977 has headed the Scientific Council for Problems of the Caspian Sea. He considers the article to be direct libel against himself, his council, and the AN [Academy of Sciences] Institute of Water Problems, where he was the director until recently. He demands the publication of his reply. We are printing it in abridged form.

"The statement concerning the 'assimilation' of millions of rubles by the council is an insinuation that is intended for the uninformed readers. The council is a public organization that is not financed by the state. The council has not sold and does not sell information on the Caspian to Iran. The Russian Federation has a treaty of scientific-technical cooperation with the Islamic Republic of Iran, in accordance with which certain joint work is carried out. At such time each contracting side makes its own expenditures. No one has ever transferred funds, or transfers them now. This is firmly established in the cooperation documents... **Other ridiculous assertions are those stating that the scientists at the Institute of Water Problems were the initiators, originators, and developers of the projects to divert part of the river runoff (emphasis added). In particular, this is attested to by the decisions of USSR Gosplan's State Expert Commission for reviewing the TEO [technical and economic substantiation] of the diversion of part of the runoff of the northern rivers to the drainage area of the Volga River. I was the deputy chairman of the commission to review the TEO, and a number of scientists from the Institute of Water Problems were members. According to our recommendations, the TEO was declined in 1980... As a result of what has been stated, I demand an immediate refutation of the article and the accusations from the newspaper's editorial office and the authors for having insulted the honor and dignity of a scientist and citizen. Otherwise I shall be forced to take court action."**

The editorial office has acquainted the authors of the article "Environment of Extinction" with the objections made by Corresponding Member G. V. Voropayev. In response to his

request they provide the following answer. In particular, concerning the council's monetary operations:

"We must admit the insufficient precision of the formulations addressed to the Council on Problems of the Caspian Sea," the academicians write. "The fact of the matter is that the Scientific Council on Problems of the Caspian Sea was created in the Institute of Water Problems, of the Academy of Sciences; it was financed by that institute; it consisted chiefly of its employees; and was headed by the director of that institute, V. Voropayev. It is therefore difficult to separate the activities of the council from the activities of the institute. It is possible that certain shortcomings addressed to G. V. Voropayev as the council chairman should pertain to his activities as the director of the institute."

The authors go on to mention the history of the river diversion and, in this regard, they are completely incapable of agreeing with G. V. Voropayev's version. They prove, by quotations taken from a number of works over a period of many years, that it was precisely he who was the initiator of the diversion project, but that he was covered by the efforts of other individuals.

In 1976 G. V. Voropayev wrote to VODNYYE RESURSY magazine (No. 3, pp 4-6): "It is proposed to carry out the water supply of the southern rayons at the expense of the more complete use of local resources and the bringing in of the runoff of the country's northern slope (drainage areas of the Kara, White, and Barents seas), that is, at the expense of territorial redistribution on a large scale." He emphasized that "the unity of water management ties on a countrywide scale is becoming especially obvious in the version of runoff redistribution that was developed by the USSR Academy of Sciences Institute of Water Problems."

We have been sent a Xerox copy of the book by G. V. Voropayev and A. A. Bostandzhoglo, "Problema izyatiya, perebroski i raspredeleniya chasti stoka sibirskikh rek dlya rayonov Zapadnoy Sibiri, Urala, Sredney Azii i Kazakhstana" [Problem of Withdrawing, Diverting, and Distributing Part of the Runoff of Siberian Rivers For Rayons of West Siberia, the Urals, Central Asia, and Kazakhstan]. The publisher is USSR Academy of Sciences Institute of Water Problems, 1984 (For Official Use Only). In these "closed" works we read on page 40, "The development of the national economy determines the desirability of constructing a system among drainage areas for diverting the runoff of the Danube River into the Dniepr drainage area; the carrying out of a series of operations to divert part of the runoff of the northern rivers into the Volga drainage area; and the construction of the Volga-Urals and Volga-Don canals to use the diverted runoff in the Northern Caucasus for irrigation. Scientific research and feasibility studies that have been conducted have substantiated the desirability of diverting part of the runoff of the Siberian rivers to Central Asia and Kazakhstan in the volume of the first phase (27.2 cubic kilometers)." The chapter entitled "Conclusion" states even more decisively: "Computations have demonstrated the economic effectiveness of the measures being considered for diverting part of the runoff of Siberian rivers and the profitability of the complex within the normative limits." The authorship of the diversion project also does not cause any doubts. The statement is made that "the approval of the TEO of the Asian diversion and the scientific research on the problem has become a stage that has summed up the results of many years of scientific-research and surveying-design work that was carried out by the USSR Academy of Sciences Institute of Water Problems and Soyuzgiprovodkhoz [All-Union State Planning, Surveying and Scientific Research Institute of Water Management Construction]."

In their letter to the editor, the authors of the article "Environment of Extinction" recall that, "On 18 July 1986, at a session of the presidium of USSR Sovmin [Council of Ministers], success was achieved in stopping the insane work to divert the runoff. N. F. Vasilyev, minister of water management, considered the diversion of the runoff to be the only measure for saving the Caspian and the Aral Sea and a chief measure for developing agriculture, and he demanded the immediate expansion of earth-moving operations also on the Ob River and the area between the Volga and the Sukhona rivers. G. V. Voropayev defended the project even more fiercely than the minister did. Stenographic reports still exist, and there are many witnesses to this who are still alive. But G. V. Voropayev still did not calm down. Soon his article 'The Project Will Live' appeared in newspapers, and in 1988, in an article in VODNYYE RESURSY (No. 1, pp 5-13) that was written jointly with D. Ya. Radkevich, he asserted the very same position."

Meanwhile G. V. Voropayev considers specifically his constancy to be ethical. "I do not change," he writes, "my opinions to fit the political situation. I continue to work as a scientist on the same problems that I did ten years, and 40 years, ago." In addition, he assumes that "Environment of Extinction" was conceived as a personal attack: "The article was timed for a period when the nomination of candidates for election as members of the Academy of Science was coming to an end. Similar statements by the same authors did their 'job' in the past, as was noted during the discussion of these questions at the Russian Academy of Sciences. That statement also 'started things working' today. At a number of official agencies that statement served as guidance during the making of decisions pertaining to the activities of our collective. The authors hope that it will continue to 'do its job.' S. P. Zalygin and A. L. Yanshin for many years asserted their impunity with regard to their libelous statements. The high positions occupied by both of them protected them against criticism and responsibility. But those protections are collapsing, and now it is becoming more obvious who is who."

Nevertheless, in our view, it is currently important not to delve into the problem of "who is who," but to recall that, in the history of the river diversion, the final dot has been placed by the nation's powerful movement that has banned the disfigurement of the land. People have wanted, and want now, to have an environment in which they live, rather than become extinct. Therein lies the crux of the problem.

Historical Causes of Russia's Present Ecological Crisis Examined

94WN0158A Moscow IZVESTIYA in Russian 20 Oct 93 p 13

[Article by Sergey Zaldygin, Dmitriy Likhachev and Aleksandr Yanshin, academicians of the Russian Academy of Science: "Environment of Extinction"]

[Text] Adam Smith once declared nature to be one of the three essential components of production (nature, labor and capital). All Marxism-Leninism did was make that thesis the basis of its economy and policy and introduce it into the day-to-day life of an actual society.

On the basis of this fundamental thesis nature became nothing more than a resource and a raw material that needed to be processed in order for it to have any purpose. It was necessary to improve it, reshape it and transform it as required by the projects that were to build communism (e.g. the "Great Stalinist Plan for the Transformation of Nature").

As if nature could create a being much wiser than nature itself!

But here in the late 20th century humanity is turning its attention to ecology. We are beginning to realize that we must not elevate human beings above nature and not remove them from it, but, insofar as is still possible, make them a part of nature, and we also realize that human beings' needs are infinite, while natural resources are finite.

The Ministry of Ecotourism

The state structures of all countries now have ecological services—assessment agencies, departments and committees. Predictably, here in Russia we have the biggest of them all: a ministry. In terms of its staff size that ministry is also at the top, with 630 people, almost twice as many as previously worked for a USSR ministry serving all 15 republics.

The parliament has officially adopted a "Law on Environmental Protection." But can that be considered satisfactory, when the 1993 federal budget (though it has not yet received final approval) does not even contain a separate heading for environmental protection?

What about the fact that this law still is unaccompanied by various sublegal acts like a definition of environmental disaster areas and a statute on state environmental assessment, on monitoring of and compensation for damages to the natural environment, on economic indicators governing environmental protection activity, and on incentive measures? Environmental protection officials at the local level claim they are more likely to spend time overcoming bureaucratic obstacles in the ministry's 22 departments than they are to receive assistance and support from them.

In the United States 85 percent of all projects with an impact on the natural environment end up in court. That is understandable: even if a person cuts down his own forest he can cause damage to air quality far beyond the boundaries of his own property. Our Ministry of Environmental Protection and Natural Resources has not filed a single serious case against those responsible for many truly state-originated disasters. It seems that the ministry's favorite hobby is "international relations"—i.e. innumerable symposiums, roundtable discussions and "joint projects." What about the regions? They are completely uninteresting—they have no round tables and no luncheon meetings!

One example of this sort of "ecotourism" was the World Environmental Conference held in Rio de Janeiro in 1992. Russia sent a group of 150 people to Rio, including a group of ministerial employees and the minister himself. What were the results? Where are they to be found? In what materials? There was apparently no room for those materials in our tourists' suitcases, nor could they stand the test of meetings, attending them on something of a rotating basis.

A few words about our public environmental movement. It is fading away. Once the movement was in a position to become a source of support for activities by the Ministry of Environmental Protection and the government. But it did not—a missed opportunity. There have been many missed opportunities. Just recall the idea of establishing an Ecological Fund. The time is past when the public could force the government to withdraw its plan to divert Siberian rivers' flow into the Caspian Sea, when the people of Volgograd were able to stop the construction of a second Volga-Don Canal, and when Leningraders, though not always successfully, at least energetically protested the construction of a dike across Neva Bay.

Another woe: public and scientific ecology are degenerating into semi-legal private companies. One example: the Ecology and Peace Association has among its members a company called the Center for Urban Ecological Studies, which could be called "N. P. Yurina and Co." It makes dubious deals with Europe's "Ecological Building Blocks Initiative."

Ecology: The Science of Stabilization

Up until now science has worked for progress, and only ecology makes stabilization its goal.

Science is undergoing a difficult time, a dramatically difficult time. Under the conditions that exist today scientists are out of the loop on environmental issues—doing nothing and achieving nothing. During this "time out of balance" others are making their careers and reestablishing the positions they lost during the period when projects like the diversion of Siberian Rivers into the Caspian Sea, diversion of the Ob River into the Aral Sea, of the Volga into the Ural and Stavropol regions, the second Volga-Don Canal and many, many more were under development. One should not think that all these thoughts of "diversion" and huge projects have disappeared from the minds of those who came up with them and implemented them. Those same minds intend to maintain the state's monopoly over major construction, and if that is the case then both canals and water diversion projects will be back in the state's budget.

Even now we have before us the findings of certain experts claiming that the second Volga-Don Canal is essential, as it will divert a portion of the Volga's flow into the Don River and thereby help lower the level of the Caspian Sea.

But the second Volga-Don Canal's annual capacity is three cubic kilometers. That would lower the level of the Caspian Sea by only three millimeters, while the sea's level is rising

by 10 centimeters or more each year. Who stands to benefit from the canal: the Caspian Sea or the canal builders? At stake are trillions of rubles, so would it not be more reasonable to invest that money directly in agriculture instead of in the construction of irrigation canals?

The primary goal of the "diversionists" is to revive the great construction projects. Well-known engineer P. Polad-zade, former head of the former Ministry of Water Resources, is currently selling shares in the remains of that monster, the Vodstroy Concern—the ministry's offspring, but an odd one, with authorized capital of R32.4 million. That is the price of one or two pieces of earthmoving equipment, even though the concern owns hundreds if not thousands of pieces of such equipment. This is who desperately needs a second Volga-Don Canal!

G. Voropayev, a corresponding member of the Academy of Sciences and one of the most active proponents of the idea of adding water to the Caspian Sea using northern rivers, is currently head of a council whose task is... to combat the flooding of coastal areas along the Caspian Sea, the level of which even without river diversion is already rising year after year. Yet many scientists had predicted that rise in sea level and warned Voropayev about it.

Voropayev's council—comprised of more than 30 people—is successfully snaring millions of Russian rubles and selling information on the Caspian Sea to Iran for a pittance, with no other fruits of its efforts to be seen. Nor has the position of the "diversionists" on solving the problem changed: as before the focus is on water management, not on broader socioeconomic principles.

The Russian Academy of Sciences Presidium twice sustained a motion of no confidence in Voropayev's nomination when he was appointed head of the current Caspian Council, yet the bureau of the Division of Oceanology, Atmospheric Physics and Geography (Academician V. Zuyev) stuck by its guns: the man who saved the Caspian Sea from "drying up" a few years ago would now save the land that the same sea is inundating!

An equally strange situation is emerging in connection with the plan for a hydroelectric power station on the Katun River. A dubious project. Over a period of many years the project was never proven to be justified, but now there is only one consideration: Gornyy Altay has become a component of the Federation. That is all that is needed to proclaim: on with the construction! There is no money, the region's geology and geochemistry are cause for concern, the republic's economy does not justify the project, but still we are going ahead with it! Next door in Barnaul is the Institute of Ecological and Aquatic Problems (corresponding member O. Vasilyev). That is who should have the final word, but the institute's scientists are hedging: they are afraid to say "no," but it is also dangerous to say "yes." So many people are happy saying both "no" and "yes": some money is being allocated toward this unresolved issue, but only a little.

Pressure From the Nuclear Industry

On 24 December of last year the government decided to build a number of new nuclear power plants in the Russian Federation. The decision was made unexpectedly, without the prior knowledge of the scientific community. Ministry of Atomic Energy officials were well aware, as were their predecessors in the USSR Ministry of Medium Machine Building, that any open discussion of projects would elicit many justified objections.

The Ministry of Atomic Energy needs these plants, that is clear. But does the country need them, a country whose industry is declining with each passing year and consuming less and less energy?

The majority of our nuclear power plants have reactors of the same type that are at Chernobyl, and the International Atomic Energy Agency considers them dangerous. IZVESTIYA has repeatedly reported on the dangerously dilapidated condition of the Leningrad Atomic Electric Power Station.

Those in the nuclear industry say that we must not lag behind France, which gets more than half of its energy from nuclear power. Yet they forget to mention that in France all nuclear power plants are located at a distance of at least 15 kilometers from population centers and are equipped with less dangerous reactors. They also forget to add that France has a powerful nuclear waste processing industry, while we store such waste on the surface (on the Kola Peninsula) or only lightly covered with earth, as at Sergiyev Posad near Moscow. Plus we have radioactive wastes both of our own origin and from abroad—from nuclear power plants that we have built in other countries. Such were the terms of the contracts under which they were built.

Radiation from underground nuclear weapons testing at sites near Semipalatinsk, and to a lesser degree on Novaya Zemlya, covers extensive areas of the former Altay Kray, Novosibirsk Oblast, the northern Komi Republic, the Arctic Urals and the West Siberian coastline. Do not let them tell you that the radiation is slight, harmless and not in excess of permissible standards. Those "standards" are very provisional and have repeatedly been revised. And Chernobyl showed us that the residents of similar "favorable" areas in terms of their degree of radioactivity have become very ill and died agonizing deaths from cancer of the thyroid gland, liver and blood.

Yet Russia possesses tremendous reserves of natural gas, primarily in Tyumen Oblast. The portion of those reserves that has been explored and is ready for use totals tens of billions of cubic meters, with projected reserves of tens of trillions of cubic meters. That does not include fields that are beginning to be discovered on the floor of the Barents and Karsk seas, as well as along both coasts of Sakhalin.

We produce approximately one billion cubic meters of natural gas annually, and that is the one industrial sector where there has been no drop in production. That means we have enough natural gas to last for at least 300 years. By that time dangerous nuclear fission energy will have given way to safe nuclear fusion energy. According to assurances from American physicists, that will occur in the first decade of the 21st century.

Why are we about to build many dangerous nuclear power plants that will soon be outdated yet conserve our natural gas,

the burning of which would produce energy that is environmentally clean and much cheaper? Or are we saving that natural gas so we can sell it at a low price to our foreign partners and buy from them at high prices capron, nylon and porolon clothing made from that same natural gas? That might be to someone's benefit, but it does not benefit the state.

Sweden does not have any coal, oil or natural gas fields. Nevertheless, after Chernobyl the Swedish Riksdag decided not to build a single new nuclear power plant and to shift all the country's further power development to heat and electric power generating stations using imported natural gas from seafloor deposits.

The Nature Giveaway

In 1917 Russia, or a substantial portion thereof, came to believe that its greatest wealth in the world—factories, plants, railroads, lands with their forests and mineral wealth, and rivers—should be forcibly expropriated from their private owners, including the Romanov dynasty, and become truly the people's property. That was precisely how Soviet slogans and decrees framed the issue. And what happened? What happened was that all that wealth wound up in the hands of the party elite, which not only had complete control of the country's entire natural environment, but also arbitrarily experimented with nature, plundered it and crippled it with gigantic construction projects.

In our country privatization is like a giveaway. It would seem that a giveaway is not acquisition, so the matter should be much simpler. In fact, it is much more complex than a direct requisition of the socialist type. Why is that so? Because both those who are doing the giving (the state apparatus, the state bureaucracy) and those who are receiving (the "new capitalists") have virtually the same opportunities for personal enrichment. Neither group wants to miss those opportunities. Neither group currently has the slightest interest in ecology or any concern over how to preserve forests, soils, mineral resources, rivers and a clean atmosphere. All current programs in this regard are not worth the paper they are printed on, if only because they are in no way connected with the theoretical principles, much less the practical application, of privatization. That practical application, in turn, should be based on new principles of ownership, from which it would be clear who would have the right to possess what, in what amount and on what terms. Until we establish those principles of ownership there can be no civilized privatization, nor any point in discussing ecology—it will just be pushed aside.

An oblast boss calls a rayon boss:

"Petr Ivanovich! Sell this guy a piece of land! With a little garden plot! Do it!"

That is all that has to be said. The "guy" is not just anybody, he is a restaurant owner!

And so Russia's forests, minerals resources and water are being exploited (and plundered and polluted) at an unprecedentedly frenzied rate.

It is impossible to say where privatization will lead under the current system (i.e. disorder and chaos). Politics without well-founded projection is nothing more than adventurism. And so the richest country in the world is going around the world with its hand outstretched.

Not Under Public Scrutiny

The problem is also with our level of ecological awareness. Each of us could make various suggestions to the government. For example, we feel that state authority today requires three police forces: civil police, tax police and sanitary-environmental police. But that is just one small detail. The awareness of every citizen of the Federation is another matter. It is clear that police forces, even a dozen of them, cannot fix this situation if citizens today are indifferent to the task of preserving their greatest wealth—nature—and if each of us does not feel ourselves in at least some way the owner of that wealth and thus obligated to pass it on to our children and grandchildren.

There is still time to think and realize. Not much, just a short time, but there is still time.

The reader has probably noticed that articles on environmental issues have become a rarity in our newspapers. Not one of our large-circulation publications has launched even a weekly or monthly environmental column. We can say with certainty that if our scientific community and our culture ignore the problems of ecology the cause is doomed to failure.

Ecological Fund Supports Radiation Decontamination Work

OW1502103194 Moscow Ostankino Television First Channel and Orbita Networks in Russian 1945 GMT 8 Feb 94

[Interview with Aleksandr Nikolayevich Penyagin, chairman of the All-Russian State and Public Radioekologiya Fund, by an unidentified correspondent; from the "Utro" program; date and place not given—recorded]

[Text] Chernobyl is our constant agony. Recently mysterious things have been occurring in the disaster zone. Specialists have to their own great surprise discovered the radioactive element Americium-241, a substance dangerous to all living things. This element should not have escaped the sarcophagus. Nevertheless, this has happened. Americium-241 is very dangerous since even in miniscule amounts it causes the severest poisoning and mutations. Scientists are presently wracking their brains on how to prevent the spread of this element beyond the disaster zone.

Of course, there are many other very serious problems in Chernobyl, and apparently the Ukraine will not be able to solve them alone. That is why Ukrainian ecologists may be interested in the work of the All-Russian State and Public Radioekologiya Fund. Our Novosibirsk correspondent talks with Aleksandr Penyagin, chairman of this fund. *[video shows correspondent talking with Penyagin who has a large map of Central Siberia on the desk at which he sits]*

Correspondent: Could you tell us what brought you to Novosibirsk?

Penyagin: Well, you may recall the logic of events. First Chernobyl, then the Urals—I mean the problem which we raised and elevated to the level of a state program there. The

third state program concerns the consequences of the effects of the Semipalatinsk test range.

Correspondent: You mean the rehabilitation of the population, yes?

Penyagin: Both of the population and the territory, absolutely. The Semipalatinsk test range aftermath affected the Altay, the mountainous Altay, and part of Novosibirsk Oblast. That is the first point, and we consider that it is necessary to begin solving radiation and ecological issues throughout Siberia. Not many people are aware of it, but the Yenisey—that wonderful, beautiful, and mighty river—has been polluted over almost 1,000 km. This problem will have to be solved at the appropriate state level. The same problem exists on the Tom River, and so forth. This involves underground nuclear tests carried out for national economic purposes, and so forth.

Correspondent: What do you mean by a state program? Are there simply tasks or are their funds as well?

Penyagin: It is both tasks and funds. Everything has already been scheduled, what everyone has to do. The prime minister has already signed this and the organizations which are implementing this state program have already been informed. In other words, real assistance to the region is beginning.

Correspondent: Aleksandr Nikolayevich, I do not want to make you into a kind of hero, as has been traditional in our propaganda presentations, heaven forbid, but tell us, to compile this kind of a map for yourself, a map showing the unfortunate areas, a map of your activities, you must have visited all these places, that is how I imagine it, yes? These are all places which people would leave if they had the opportunity, which they would probably flee. Yet you went there. Tell us, how did you feel and how do you feel today after all this?

Penyagin: First of all, I have had excellent experiences. I did all my service on a nuclear submarine. So radiation is something I am familiar with. On the other hand, if a person decides to solve a problem which he is sounding out for others as a state problem, then his personal choices must take second place. If you have never been in these regions, if you cannot recognize the situation with your eyes closed ... [Penyagin pauses] Well, for a government official, a bureaucratic attitude to people and the territory as a rule turns into mistakes.

These mistakes have a very harmful effect on the budget and on some categories of people who have been overlooked because a bureaucratic outlook does not permit a comprehensive assessment of the situation. So in this case, strange as it may seem, one must visit these places, one must see how state programs are being implemented, one must know how to set up a system to verify state activities, and even to verify the activities of the legislators themselves.

Correspondent: Aleksandr Nikolayevich, you presently head a fund known as, which has the status of a state public fund, the Radioekologiya Fund. What is this fund? What do you have at your disposal and what are you doing with the funds which you now have or will have?

Penyagin: First of all, our fund has narrowed things down to four areas—social, economic, ecological, and moral rehabilitation of those areas which have suffered from the effects of radiation. To implement the program of ecological rehabilitation of radioactively contaminated lands, we have established an entire specialized company which we call the Bioflora Joint Stock Association. It has the high technologies which are capable of cleaning lands with low radioactive contamination.

Correspondent: Have you already begun working on this?

Penyagin: Yes of course, we are working, and I hope that the time will come when I can show you the results of what we are doing.

Detonation Suggested as Nuclear Waste Disposal Method

PM1502125794 Moscow KOMSOMOLSKAYA PRAVDA in Russian 15 Feb 94 p 2

[Yuriy Lvov report: "Nuclear Waste Will Be Destroyed by Explosions"]

[Text] This news is not for those of a nervous disposition: It is possible that in the foreseeable future all Russia's radioactive waste and chemical weapons will be destroyed...by nuclear explosion. By several explosions, to be precise, which will be detonated deep within the permafrost of Russia's only nuclear test site on the island of Novaya Zemlya.

This program has been expounded by Major General Vladimir Loborev, academician and chief of the Ministry of Defense Central Physics and Technical Institute, and Aleksandr Chernyshev, deputy director of the Federal Nuclear Center (Arzamas-16), in reports to a closed scientific seminar held at the "Uran" Science and Production Association, which your KOMSOMOLSKAYA PRAVDA correspondent managed to attend. Representatives from our most important organizations in this field attended the seminar: the Ministry of Defense, the Ministry of Atomic Power Engineering and Industry, the Federal Inspectorate for Nuclear and Radiation Safety, the Ministry of Environment and Natural Resources, the Russian Academy of Sciences, and the Academy of Natural Sciences.

There are several ways of recycling radioactive waste. The idea of sending waste into space is the most utopian of these schemes, according to Vladimir Loborev. However, the most practical method is plunging the fatal waste into glass and burying it in "deep geological formations." The largest vitrification plant is located in France. It cost $500 million to build.

According to Loborev, to destroy all of Russia's waste would require 20 such plants, each of which would have to operate continuously for 10 years. The Russian economy would be unable to bear costs of this magnitude. But the problem is becoming increasingly acute—obsolete ships with nuclear reactors that can neither be used nor scuttled are piling up at the piers of Severodvinsk and other ports....

A nuclear explosion would be far less costly. And the authors of the plan claim that after the explosion the waste would be buried in accordance with all the regulations—the

extremely high temperature would turn the rock and the radioactive waste housed in underground passageways into an large vitreous mass which would be covered by a thick layer of compacted soil and rubble. Thus embedded, the waste would never be able to "surface"; besides, all around there is permafrost which, according to the specialists, would present no threat for many centuries, even if a subtropical climate were to occur on Novaya Zemlya.

The chemical weapons situation is somewhat more complex. In Russia it is kept in seven large storage facilities, some of which are located near major cities. They must be destroyed as soon as possible in accordance with international conventions and following the dictates of common sense, but the technology to do this does not exist at the present time. Scientists believe that in this case the "nuclear explosion" method looks more promising, although it would require some extremely complex chemical calculations.

The authors of the plan assure us that the program is at the scientific development stage and will under no circumstances be implemented without thorough expert assessments, international monitoring, explanations to the population, and, of course, presidential and government approval. In order to obtain the last item on this list, the plan would have to do the rounds of a number of competent departments. The seminar decided that it would be submitted for examination by the recently established Scientific Council under the Russian Federation Security Council.

We can only hope that amid all the current confusion in Russia, these important "formalities" will not be forgotten. After all, we already possess experience of the unpredictable behavior of the peaceful atom in Russia.

Dumping of Chemical Weapons After World War II Reported

LD1102092694 Moscow ITAR-TASS in English 0838 GMT 11 Feb 94

[By ITAR-TASS correspondent]

[Text] Petrozavodsk, Feb 11 TASS—Thirty three years ago the former Soviet Union dumped thousands of tonnes of chemical shells in northern seas and scientists fear the secret burial grounds may be the reason for a high mortality rate among the local population, according to a Russian daily which quoted a participant of the secret dumping operation.

Ero Pavilainen, a resident of the northern Russian city of Petrozavodsk, served in early 60's in a military unit near the town of Pechenga, close to the Norwegian border. He told the Petrozavodsk-based newspaper "NORTHERN COURIER" on Friday that he and other soldiers had unloaded numerous railway cars with bombs with mustard gas.

"These were the Soviet chemical weapons accumulated since the (World) War (Two). They were delivered by trains from various military units of the Soviet Union and dumped in the Arctic Ocean," Pavilainen was quoted as saying.

The newspaper added that measurements taken by experts in certain parts of the White Sea showed that the water and soil there are contaminated and unsuitable for living organisms.

It added that the secret burial places of chemical weapons may be the reason for a high mortality rate, especially among newborns, registered in several settlement along the coast.

Korean, Japanese Nuclear Experts To Inspect Waste Sites

LD1102113294 Moscow ITAR-TASS in English 1025 GMT 11 Feb 94

[By ITAR-TASS correspondent Yuriy Grachev]

[Text] Vladivostok, Feb 11 TASS—A group of Japanese and South Korean experts in nuclear power arrived in Vladivostok. The group intends to inspect the recent dumping grounds of radioactive wastes of the Pacific Fleet and will study problems involved in the processing of radioactive wastes and their impact on the environment.

Members of the group will report their findings to the Foreign Ministries of their countries which arranged for their trip to the Primorye territory.

The group includes Amano Yukiya, chief of the Nuclear Power Department of the Japanese Foreign Ministry. This is not his first visit to Russia. Each time he contributes more to the strengthening of mutual understanding and good-neighbourliness with the Primorye territory.

Radioactive Waste Dumping in World's Seas by Russia, Other Countries Detailed

94WN0138A Moscow KRASNAYA ZVEZDA in Russian 12 Jan 94 p 2

[Article by Vitaliy Strugovets: "Is the Ocean the First To Perish?"]

[Text] **The first dumping of radioactive waste (RAO) in the seas was performed by the USA in 1946 in the northeast part of the Pacific Ocean, at a distance of 80 kilometers from the coast of California. Since that time, the World Ocean has become truly a storehouse of spent nuclear raw material...**

Great Britain has dumped three-fourths of all the world's RAO into the ocean, performing 34 burials of solid radioactive fuel in 15 sites in the North Atlantic, The Minch, the Bay of Biscay and in the region of the Canary Islands in the period from 1949 through 1982. The mass of dumped containers comprises 74,052 tonnes, with an overall activity of 949 kCi [kilocurie].

The disposal of liquid RAO from atomic industry enterprises by means of dumping through pipelines into the Irish Sea was also widely practiced in England. And this too was a considerable amount. From 1974 through 1982 the waste products dumped annually exceeded an overall activity of 100 kCi. The total scope of the dumping was so great that its effects were seen as far as the Barents and Karsk Seas.

The Netherlands, in the period from 1967 through 1982, had 14 cases of RAO dumping at four sites in the North Atlantic at a depth of 3,200 - 5,200 meters, with a mass of 19,162 tonnes and overall activity of 9.1 kCi.

France has had two cases of dumping RAO into the Atlantic Ocean. The mass of dumped waste comprised 14,299

tonnes, with activity of 9.54 kCi. In 1979, waste from nuclear enterprises was dumped into The Minch.

Switzerland has dumped RAO 12 times in the period from 1969 through 1982 at three sites in the North Atlantic. The mass of the materials dumped comprised 5,321 tonnes, and their overall activity was 119 kCi.

The USA, in the period from 1949 through 1967, has dumped 34,282 containers of RAO with overall activity of 79.4 kCi at 11 sites in the Atlantic. In the period from 1946 through 1970 it dumped 560,261 containers with overall activity of 15 kCi at 18 sites in the Pacific Ocean.

Moreover, during the period of operation of the nuclear fleet, the U.S. naval forces have lost two nuclear submarines—the "Thresher" (April of 1969) and the "Scorpion" (May of 1968). Together with the first nuclear submarine alone, there turned out to be around 270 kCi in fission products at the bottom of tne ocean. Plus the loss of a number of nuclear weapons.

Japan performed dumping of RAO into the Pacific Ocean near its shores in 1956-1969. It performed 12 disposal operations at six sites, dumping 3,301 containers with overall activity of 0.416 kCi.

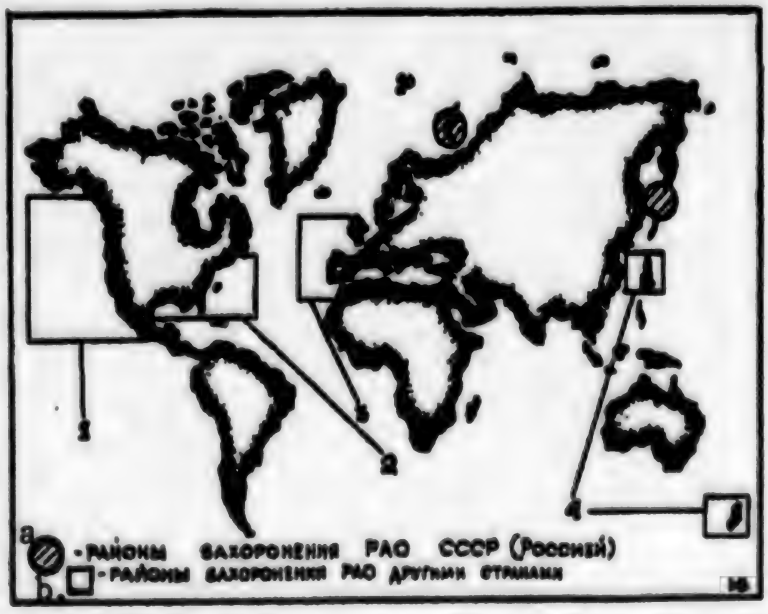
Belgium has dumped RAO 15 times, in The Minch and the Bay of Biscay, disposing of 55,324 containers with overall activity of 57.24 kCi.

This list is rounded out by Germany, Korea, Italy, New Zeleand and Sweden, through whose efforts the overall activity of RAO dumped into the World Ocean has been brought up to 1,240 kCi. This, we will emphasize, is without taking into consideration the waste from plants processing nuclear fuel, lost nuclear weapons and other sources of ionizing radiation, sunken nuclear submarines and radionuclides which have found their way into the ocean as a result of underwater nuclear explosions. However, a number of specialists maintain that the real number is somewhat higher. Yet the main mass of radioactive waste—over 98 percent—is buried in the Atlantic Ocean.

We will note that in recent years, as a result of the sharp criticism of this practice, all the states have reduced or discontinued altogether their dumping of RAO into the seas. Yet in spite of this, they have reserved the right to dump radioactive waste in the World Ocean. In Great Britain and France the possibility of step-by-step dumping of RAO into the sea has been officially granted—by the Convention on Protection of the Marine Environment in the Northeast Atlantic—until the year 2018.

And what about Russia? Or more precisely, the USSR, since it is specifically from it that we have inherited the problems of dumping radioactive waste in the seas.

And so, the first dumping of RAO in the USSR was performed in 1959 and was associated with the testing of nuclear submarines and the nuclear ice-breaker "Lenin." In September of that year, 600 cubic meters of waste with overall activity of 20 mKci were dumped into the White Sea. In 1960, 100 cubic meters of liquid RAO with overall activity of 200 mCi were dumped from the nuclear ice-breaker "Lenin" near Gotland Island (Gulf of Finland). That year marked the beginning of the practice of regular dumping of liquid radioactive waste, and 1964 marked the start of dumping of solid RAO into the northern and far eastern seas.



a - Regions of RAO dumping by USSR (Russia): Southwestern part of the Arctic Ocean—4 dump sites, 24.0 kCi; Far Eastern seas—10 dump sites, 12.3 kCi; b - Regions of RAO dumping by other countries: 1 -Northeastern part of the Pacific Ocean—16 dump sites, 14.9 kCi; 2 -Northwestern part of Atlantic Ocean—11 dump sites, 79.4 kCi; 3 - Northeastern part of Atlantic Ocean—15 dump sites, 1,142.4 kCi; 4 - Western part of Pacific Ocean—5 dump sites, 0.05 kCi

Let us begin with the North. According to the report by the governmental commission on questions concerning the dumping of radioactive waste at sea, in the northern region of the USSR, and now in Russia, there are four regions for dumping liquid radioactive waste and disposal of solid radioactive waste. These are located generally north of the 72nd parallel and west of Novaya Zemlya. These regions were selected by the staff headquarters of the Northern Fleet in 1960-1966 and approved by the Naval Fleet Main Staff Headquarters. Up until 1986, the Murmansk Steamship Line also performed such dumping of RAO in the regions designated for the Northern Fleet.

The dumping was extremely non-uniform, and the maximal values of activity were noted in 1965 (northeastern part of the Barents Sea, around 1,000 Ci), in 1975 (central part of the Barents Sea—800 Ci and Karsk Sea—8,500 Ci), in 1988 (northeastern part of Barents Sea, around 5,300 Ci), and in 1989 (as a result of the accident of the nuclear submarine at Ara-guba, 2,000 Ci).

In a breakdown by seas, the level of overall activity is distributed as follows: Baltic—0.2 Ci, White—100 Ci, Barents—12,153 Ci, Karsk—8,500 Ci. On the whole, it is 24 kCi.

Is this a lot?

For comparison we may cite the following fact: Studies performed by a scientific expedition in 1985-1986 showed that the underwater current of the Gulf Stream in that year alone from the North Atlantic—the site of constant dumping of RAO by Great Britain and France—has brought us radioactive waste with overall activity of around 24 kCi. As much as we dumped in the northern seas over a period of 30 (!) years.

The Far Eastern region. Since 1966, the USSR performed dumping of RAO in the Far Eastern seas in 10 regions. The greatest amount of radioactive waste (by volume) was dumped near the southeastern coast of the Kamchatka Penninsula. And the greatest amount by overall radioactivity was dumped into the Sea of Japan. The maximal amount of dumping in terms of radioactivity occurred in 1975 and 1985-1987. The overall radioactivity of the RAO comprised 18,565 Ci.

In the opinion of specialists, considering the huge water area in the Far Eastern region, the RAO dumped by the Pacific Fleet comprises no more than a few percent in the balance of anthropogenic radioactive pollution, and therefore cannot cause an ecological catastrophe. This is true in full measure also of the Fall (1993) dumping of RAO by the ships of the Pacific Fleet. "The dumping in the Sea of Japan in October," emphasized the head of the Russian Federation Ministry of Environmental Protection and Natural Resources Ecological Safety Main Administration, Viktor Kutsenko, in a speech presented at a recently held "roundtable" on problems of dumping RAO in the seas, "posed no danger to the environment. And subsequent dumping, which will be practiced in this region until the end of next year, will also not pose a hazard. We may even not consider this waste as being radioactive."

Nevertheless, according to Kutsenko himself, an ecological threat really does hang over the Far East. But the reason for it, as it turns out, is not the radioactive waste which has been dumped into the sea, but that which is being stored in special tankers of the Pacific Fleet. This problem is confirmed also by specialists at the VMF Glavkomat [Naval High Command]. In the opinion of one of them, Captain 1st rank Yevgeniy Romanov, the TNT-5 and TNT-27 industrial tankers loaded with liquid radioactive waste are in such a poor technical state that they may sink at any time. Then the huge concentration—several hundred cubic meters—of radioactive waste would really cause a catastrophe. In order to avoid this, the decision was adopted to begin dumping in the water basin of the Sea of Japan. The dumping, I repeat, is caused by technical necessity. And even if under the pressure of the world community we will have to discontinue such actions in neutral waters, the specialists at the VMF Glavkomat will insist on at least one-time dumping within the limits of Russian territorial waters.

Of course, the dumping of radioactive waste in the World Ocean cannot continue for long. Yet today, practically in the entire world, the technology of processing radioactive waste lags behind the demands. Here in Russia, one other problem is added to this. Despite the fact that we possess sufficient scientific and technical potential to create the necessary conditions for processing liquid RAO into solid and for its subsequent disposal, we cannot take serious steps forward due to the shortage of finances. And a significant amount of these will be required. According to preliminary estimates, around 10 billion rubles (R) would be needed to solve the problem of radioactive waste in the Pacific Fleet. In the Northern Fleet—approximately half that amount would be needed. For a full resolution of the problem in the country—several hundred billion rubles would be needed, and with application of Western technologies—several hundred million dollars.

However, it is erroneous to think that this problem is Russia's alone. The World Ocean is the cradle of life on the planet, and all countries which consider themselves civilized must apply their efforts to keep from destroying it.

BELARUS

Refugees From CIS Hotspots Settle in Radiated Regions

WS1602102894 Minsk Radio Minsk Network in Belarusian 0400 GMT 16 Feb 94

[Text] Some regions of Gomel Oblast—the ones that have most seriously suffered from the Chernobyl accident and from which the majority of the local population have fled—are currently being inhabited by refugees from hotspots in the CIS. Recently, for example, more than 100 applications for permanent residence have been filed in Dobrush Town militia passport department. People, including families with small children, from the Baltics, Transcaucasia, and Kazakhstan come here. It is better to die slowly from radiation than quickly from criminals, say the refugees. This is their main reason for changing their place of residence. Willing to demonstrate that they are not really scared by high levels of radiation, 12 families have already

settled in Dubovy Loh village where the radiation level is 15-40 curies per square kilometer. Local authorities are delighted because they have acquired an additional labor force. However, what about the refugees' children?

Chief Ecologist on Ecological Legislation

WS0202141594 Minsk ZVYAZDA in Belarusian 1 Feb 94 pp 1,2

[Interview with Baris Parfenavich Savitski, head of the Supreme Soviet commission for ecology and rational use of natural resources, by Natalya Babina; place and date not given: "Paradise Is German Economy Accompanied by Our Ecological Legislation"—first four paragraphs is ZVYAZDA introduction]

[Text] It is a paradox: The more unsafe is our ecological situation, the greater number of people become ill from various diseases, and the less people think about protecting nature. Is this a reaction of an ostrich who—at the sight of danger—hides his head in the sand? It is very difficult to meet a person who understands that protection of the environment is a much more important task than economic reforms and political scandals. However, fortunately, there are such people among us. They are ecologists. They are professional amateurs, enthusiasts and skeptics, gloomy pessimists and decisive romantics.... If mankind survives, this will only occur through their efforts.

Our guest today is an ecologist, if it is possible to say so, he is No. 1 in Belarus. He is reserved, he hates loud phrases and effective gestures. Nevertheless, when my colleagues-deputies voted down one of the ecological issues, he said "Shame on you!" and left the session hall.

I recalled this event. He impatiently waved his hand. "At my age, it was just okay."

However, I have my own opinion on this issue. Professor, author of more than 300 research publications, Baris Parfenavich Savitski heads a Supreme Soviet commission for ecology and the rational use of natural resources, and demonstrates the professionalism and wisdom of a competent politician.

Babina: Baris Parfenavich, you have been working in the legislature for more than three years. What are the results of your work? With what feelings do you view those three years?

Savitski: First of all, I have to say that the work in the commission takes all my time, and I am completely devoid of time for the fulfillment of my deputy duties. Therefore, my technical secretary fulfills that part of my work. I am concerned with this. However, I am satisfied with the results of the work of my commission.

We faced the task of creating a group of ecological laws that would consider the new status of the Republic, its sovereignty, and emerging market relations in Belarus. Our first draft law had to reorganize the entire structure of the system of environmental protection in the Republic, to establish a powerful centralized system of control, and to do away with numerous organizations that duplicate each other's activities. Many deputies thought that this draft law was too advanced and voted it down. However, some elements of this law are being implemented in other laws and legal norms.

We have begun to develop the so-called code of ecological laws. These laws include a number of ecological issues—the protection of the environment in general, the protection of water, land, animals, and plants, etc., and the mechanism for their implementation. However, it is simply impossible to adopt all these laws at one Supreme Soviet session. Therefore, we proposed discussing the most important "Law on Environmental Protection."

The Law "On State Ecological Examination" is currently included in the state planning system and implemented in the decisions on the socioeconomic development of Belarus. The implementation of various draft projects that did not receive a positive assessment of ecological experts will not be financed by the state. This is the most effective economic lever.

I feel proud that no other state has the same precise concept of ecological examination. In my opinion, experts from the World Bank for Reconstruction and Development and my colleagues-deputies from other states—with whom we usually cooperate on these issues—agree that this law is a great achievement for our legislature.

The Law "On Industrial and Consumer Waste" has been recently published in the press. Implementation of this law will considerably decrease the negative impact of waste on the environment and make entrepreneurs use this waste in industrial production. Economic measures will also help to implement this task.

Our Republic is literally flooded with proposals to build enterprises for storage and processing of radioactive or chemical waste. Considering that Western businessmen are ready to propose enormous bribes, some of our officials are ready to permit the construction of such production sites on our territories that are already contaminated with radionuclides. Well, the new law categorically bans transporting all kinds of waste to Belarus, excluding the waste which can be processed at the already existing Belarusian production sites, however, after a strict ecological examination. This law also limits transporting waste through our territory because it can cause terrible consequences. Do you remember how the waste with radionuclides poured out of containers at Brest railway station?

These three laws have been recently adopted by our legislature. I can say that if my name is put under only these three laws, I will claim that my life was worth living.

Hence, our commission is doing well. However, if all 14 members of our commission were professional lawmakers, our results could have been more fruitful. The issue of a professional legislature arises, however, this is an issue for another interview.

Babina: You often go abroad. Can you compare our ecological legislation with that of foreign states?

Savitski: The financial situation of our state is in a miserable state, that is why I cannot go to the states I would like to

visit, but to the states where I am invited.... Therefore, it is difficult to speak about all the states. I am sure that if not for Chernobyl, the ecological situation in Belarus would not have been worse, but even better than in some European states. Currently, we have a lot of difficult problems. In the first place, the change in the chemical composition of Belarusian soil as an aftermath of acid rains and air pollution due to the means of transportation. These are global issues. The local issue of key importance is the waste from Soligorsk and Gomel chemical factories; the negative results of foolish land improvement; and the ecological situation in Novopolotsk.

As for the legislation, it is not worse than in West European states and in some respects it is better. In the West, the implementation of ecological projects is often hampered by parliamentary agricultural and industrial lobbies. I am convinced that paradise is the German economy accompanied by our ecological legislation. To my regret, we are too far away from this paradise. However, in my opinion, under market conditions, the mechanism of control over the implementation of ecological laws is becoming more and more operative. Many of our industrial and agricultural sites are owned by persons who are responsible before the law.

Babina: You are heading the Belarusian Ecological Union. This is one of our numerous new public organizations. How do you assess the activity of "the greens" in the Republic?

Savitski: I have no single opinion on the issue. I do not like the appearance of the so-called "banning" trend in this organization. Often, despite real conditions, they demand that some sites not be constructed. However, life is life. Therefore, in my opinion, the key task of ecologists is not to ban but to choose the right option. To my regret, we are meeting more often with these "banning" demands. Sometimes, they are offended that we did not support their proposals. I can give you some examples: There is a project for the construction of an industrial site for production of sodium carbonate from the waste of the Soligorsk chemical factory. It may seem that everything is okay, because the Republic badly requires this substance. Moreover, it will be produced from this waste.... However, the Soligorsk Union of Ecologists has been writing letters of protest to all organizations and departments of the Republic, as well as to the UN ecological departments. In fact, Soligorsk ecologists are not against the construction of this kind of a factory, however, they oppose its construction on their territory. That is, waste from the Soligorsk chemical factory will have to be transported somewhere else.... If this union of ecologists made attempts to make this production safer—there are no safe technologies overall—their actions could have been more fruitful.

Babina: You receive many letters from ordinary people. What are they about?

Savitski: Each day, we receive about 30 letters. They are varied. Ecologists and workers of various branches of our economy send their proposals on various issues. We also receive many letters from working collectives. We try to answer all these letters.

Babina: ZVYAZDA wrote about the debates between Belarusian and Ukrainian ecologists on the issue of constructing a building materials factory close to Malorita. Has this issue been resolved?

Savitski: This issue has been discussed on all levels. A very representative commission of Belarusian ecologists has come to the conclusion that nothing threatens the Shatskiye Lakes. Nevertheless, we can listen to all the counter arguments of our Ukrainian colleagues.

I hope that they will also take into consideration our protests about the decision of the Ukrainian legislature to continue the operation of the Chernobyl nuclear power plant.

Babina: The last question. What is awaiting Belarus in 10-15 years?

Savitski: I would hope for Belarus, especially its northern part, to become a kind of Switzerland within the CIS, a zone for tourism, recreation, and farming. Our industry should be equipped with modern technology.

In general, it seems to me that Belarus has all the chances for becoming a state respected by the international community. The Belarusian agricultural sector can provide us with our own food, our industry—with raw materials. We should discard the practice of using pesticides and herbicides, and begin working for export. As for our industry, I can hear that many people say that we experience a lack of raw materials, and can become "an assembly shop" for the CIS. In my opinion, in due time, this peculiarity of Belarus will make our Republic one of the most developed in the CIS. Please, pay attention, Japan is also "an assembly shop" for the planet and neither Japan, nor Great Britain, nor Switzerland, nor Germany can boast of rich natural resources. This fact does not impede them from being rich.

ESTONIA

Greens Say Estonian-Dutch Company Defies Regulations

WS0902164994 Tallinn BNS in English 1102 GMT 9 Feb 94

[Text] Tallinn, Feb 08, BNS—Leaders of the Estonian Greens Movement in a statement Tuesday [8 February] said the Estonian- Dutch company Pak-Terminal has failed to abide by the established regulations while building a fuel terminal in Tallinn.

The Greens were referring to a government ruling from 13 November 1992, which requires all fuel terminal projects to be subjected to expert examination as to their environment implications. A building permit can be issued only after the plan has successfully passed the expert commission.

Pak-Terminal started work on its 57,000 cubic meter terminal facility for oil products of the 3rd risk class without expert examination of the project. The building permit was issued illegally and the expert report drawn up later, the council of the Greens Movement says in its statement.

They also say the company has started work on a second facility, this time for 70,000 cubic meters of oil products of the 1st risk class.

Building was started without expertise as to ecologic aspects, the Greens say.

The national construction inspectorate on Feb. 3 ordered work on the second facility suspended. It was only on Feb. 7 that the project was handed to the municipality's Environment Board and the Ministry of Environment.

Prohibition of Import of Dangerous Waste Urged

WS0202204194 Tallinn ETA News Release in English 1928 GMT 2 Feb 94

[Text] Estonia should adopt laws which would entirely prohibit import of dangerous waste, both with the aim of recycling and reusage, international Greenpeace representative Asa Skillius told a press conference on Wednesday [2 February].

Skillius said that 103 states have already prohibited importing dangerous waste, among others Hungary, Poland, Lithuania and Latvia.

Head of Estonian Green Movement Baltic Sea Bureau Valdur Lahtvee said that as Estonia has no such law, problems with dangerous waste being imported with uncertain aims have already risen, quoting an incident two years ago when Asian Trade Gmbh and its Estonian partner United Products imported great numbers of used tyres which for an unclear reason caught fire. He also said that at present a cooperation project with Finnish Kemira to produce water purification coagulate was under way, in the course of which dangerous titanium oxyde waste is to be imported.

Greenpeace Leaders Urge Minister To Restrict Waste Imports

WS0202123694 Tallinn ETA News Bulletin in English 0755 GMT 2 Feb 94

[Text] Environment Minister Andres Tarand met a delegation of the "Greenpeace" environment protection organisation yesterday. Heads of the "Greenpeace" hazardous waste group Kevin Stairs and the Baltic Sea group Rune Leithe-Eriksen attempted to convince the minister to adopt stricter measures against import of hazardous waste.

Estonia has joined the Basel convention on the transport of hazardous waste and its national requirements are even stricter than those of the convention. But Estonia has been opposing a total ban, which would prevent import of any materials. Tarand pointed out that the Tallinn Water Treatment Plant uses certain titanium waste which comes under the intended "Greenpeace" ban. The Estonian Green Movement intends to hold a news conference today to express its opinion.

LATVIA

Environmental Protection Cooperation With Estonia Planned

WS2102202794 Riga LETA in English 1115 GMT 21 Feb 94

[Text] Riga, Feb 21, LETA—The Estonian delegation from the Ministry of the Environment Protection last week paid a two-day visit to Latvia in order to work out the treaty on cooperation with the similar institution in Latvia and sign it.

According to the approved document, in future, the two ministries will jointly solve the problems of the improving of the waters in the Baltic Sea and the Gulf of Riga, coordinate economic activities in the pre-frontier land regions, take care of the maintenance of the sound environment in the places of migration of birds and in nature reserves. An agreement relating to the common positions in strengthening of the control over possible transit transportation of dangerous waste via Latvia and Estonia was also reached. The two states will regularly exchange business information with each other.

As soon as a corresponding ministry will be laid in the Republic of Lithuania, a trilateral treaty will be signed. Then, the joint programme of cooperation among the Baltic States in the sphere of the environment protection will be worked out.

UKRAINE

Treaty Signed With Poland To Control Toxic Waste Shipments

WS0302123994 Kiev KIEVSKIYE VEDOMOSTI in Russian 1 Feb 94 p 2

[Report by Oles Buzyna: "Henceforth, Ukraine and Poland Are Allies"]

[Text] The Ukrainian and Polish ministers of environmental protection signed an agreement in Warsaw on cooperation in controlling shipments of hazardous waste. Poland faced this problem a couple of years before Ukraine. Its lengthy border with Germany—the world's largest manufacturer of these "products"—facilitated the immoral activities of companies involved in selling toxic waste. However, the Polish side adopted a strict law on shipping waste across the border. According to Greenpeace Ukraine, this is one of the best laws of its kind in the world.

Ukraine still has no legal footing for controlling this sector. A resolution adopted by the Supreme Soviet in November 1993 was not implemented because the Council of Ministers has been lingering in compiling the list of toxic substances. The problem of German waste shipped to Rivne, Nikolayev, and Ochakov has not been resolved, regardless of the investigation conducted by competent organs and negotiations with Germany on returning the waste "to its native land."

The treaty with Poland is important for Ukraine first of all, because it includes a clause on prevention of transit of

hazardous waste via the two states' territories. Thus, our ecological border has moved farther to the west.

Minister Tells Envoy of Plans To Use Contaminated Timber

AU1702135194 Kiev HOLOS UKRAYINY in Ukrainian 16 Feb 94 p 8

[Vasyl Kovalchuk report: "A Talk with the Finnish Ambassador"]

[Text] A few days ago, H. Hotovchyts, minister for issues of protecting the population from the consequences of the accident at the Chernobyl Atomic Electric Power Plant, had a conversation with Finland's Ambassador Extraordinary and Plenipotentiary in Ukraine Erik Ulfstedt at the latter's request. The minister briefed the ambassador on what is being done to eliminate the consequences of the accident and to protect the population from them, and he explained how Ukraine's difficult economic situation affects this activity.

The ambassador pointed out that the conversation helped him to get a better understanding of the size of the catastrophe and of the need to urgently resolve the relevant problems, and he promised to inform his government about them. He showed interest in the minister's individual proposals on cooperation, in particular, on ways to utilize the timber from the zones contaminated with radiation.

German Experts Investigate Toxic Waste Exporting Firms

AU1802131894 Kiev UKRAYINSKA HAZETA in Ukrainian No. 4 (46) 17 feb- 2 mar 94 p 4

[Article by Stanislav Levandovskyy, UKRAYINSKA HAZETA columnist: "On the German Minister's Commission. Thanks to Yuriy Kostenko [Ukraine's minister of environmental protection] and Experts from Saxony-Anhalt, Ukraine Will Not Yet Become a Dumping Ground for Toxic Waste"]

[Text] For several months, the Ukrainian mass media have been carrying alarming reports on the uncontrolled dumping of German toxic waste in Rivne and Nikolayev oblasts. The "Greens" and Ukraine's Greenpeace sounded the alarm. German officials kept silent for a long time.

Finally, in November [1993], at the request of Ukrainian Minister of Environmental Protection Yuriy Kostenko to his German colleague Klaus Toepfer, a group of experts headed by Dr. Andre Radde [names as transliterated] arrived in Kiev.

For a week, the FRG specialists conducted identifications of toxic substances and investigated the circumstances of their delivery to Ukraine. In Rivne Oblast, between 50 and 70 tonnes of various substances were revealed (dyes, varnishes, putty, wax, tallow, and laboratory chemicals, including mercury), as well as 100 tonnes of slag, which are stored under the guard of chemical troops.

In Nikolayev Oblast, between 40 and 50 tonnes of such substances are also stored under proper conditions. There does not seem to be any acute danger for the population, but, of course, there exists a certain threat to the environment.

What part of the imported waste may be processed and what is to be done with the remaining substances will only be determined in Germany after an evaluation of the results of the inspection. The results will be reported to Saxony-Anhalt institutions, which, within the framework of their jurisdiction, are presently conducting a criminal and administrative investigation of German firms under suspicion that they have violated the Law on Waste Disposal.

The thing is, in the FRG lands, private contracts between firms (including foreign ones) are not controlled by federal organs of power. Economic ties are established directly. That is why competent bodies alone may determine the degree of responsibility of the entrepreneurs.

Unfortunately, the absence of a similar law in Ukraine makes it possible to import waste (secondary raw materials) on a perfectly legal basis. Smart dealers take advantage of this and fill their pockets under the pretext of saturating the market with raw materials, which are in short supply. It is impossible to rely solely upon the vigilance of the "Greens" or the enthusiasm of members of the Ukrainian Greenpeace Organization.

Ukraine's Supreme Council, by its decree of 17 November 1993, already made the first step, having authorized the Cabinet of Ministers to adopt a list of groups of substances and materials belonging to the category of those dangerous waste materials, whose import to the territory of Ukraine is prohibited, and the Procedure for Issuing Licenses for Importing (Transit) of Secondary Raw Materials and Relevant Waste to the Territory of Ukraine.

It only remains to make the second step—to fill in the blank spaces in the legislation, lest impudent entrepreneurs should make dangerous attempts to bring highly toxic substances to Ukraine.

I must point out, as a positive development, the meeting of the German experts with Ukrainian and foreign correspondents at the German Embassy in Ukraine. It is my impression that [German] Ambassador Alexander Arnot is particularly active in trying to help our state overcome various hardships in its present critical situation.

Kiev's Population Reportedly Threatened by Radiation

AU1802131994 Kiev HOLOS UKRAYINY in Ukrainian 17 Feb 94 p 1

[Unattributed report: "Again Radiation. Who Is To Blame This Time?"]

[Text] The Kiev Kharkivskyy Rayon People's Court has begun to consider the case of violations of radiation safety rules and norms during the reburial in 1988 of radioactive waste from the territory of the Ukrainian Academy of Sciences Nuclear Studies Institute at a burial site that belonged to a special combine of a specialized production association subordinated to the former Ukrainian SSR Ministry of Communal Services (currently the Ukrainian

state association "Radon"). The cooperative "Dozimetrist," which included scientists from the Nuclear Studies Institute, Kiev State University, and the city sanitary-epidemic station, acted as a mediator between the Nuclear Studies Institute and the special combine.

As a result of the investigation, which lasted one year, it is believed that violation of rules during the transportation and burial of the waste created the threat of dangerous irradiation for Kiev's population. The former deputy general director of the specialized production association and the chief of the radioactive waste burial site are accused of these violations.

Pesticides Said Causing 'Chemical Genocide'

AU1602153494 Kiev NARODNA HAZETA in Ukrainian No. 6 (137) Feb 94 p 2

[Iryna Yashchembska report: "Chemical Genocide Against the Ukrainian People Continues"—first paragraph published in boldface; words between slantlines published in italics]

[Text] In July 1993, NARODNA HAZETA (No. 25) carried a report on the results of an inspection by Ukraine's Procurator General's Office of the procedure for deliveries to our state of toxic chemical substances, pesticides, and plant-growth regulating agents, and their registration, storage, and utilization.

Let me remind you that the report dealt with the deliveries and utilization in agriculture of chemicals that cause considerable ecological problems and an extremely serious deterioration in the health of the Ukrainian population. The report concluded that a new genocide, this time a chemical one, had been started against the Ukrainian people.

The Procurator General's Office initiated eight criminal cases (one of them on economic matters) based on the results of the examination. It took upon itself the most involved case, which implicated officials of ministries and departments, and handed over the rest to local militia bodies.

Besides, demands and proposals were submitted to the Ukrainian president and the Cabinet of Ministers. They dealt, in particular, with the need to conduct a state-sponsored ecological examination of the "List of Those Chemical and Biological Methods of Struggle Against Pests, Plant Diseases, and Weeds, and Those Plant-Growth Regulators That Have Been Permitted for Utilization in Ukraine's Agriculture in 1992-1996" ("List") and suggested that the use of those preparations that raise any doubts regarding the negative consequences they may cause to human health and the environment must be temporarily suspended.

It is worth recalling at this point that Ukraine's Ministry of Health authorized the Ukrainian Scientific Research Institute of Ecological Hygiene and Toxicology of Chemical Substances (UkrNDIGINTOKS) to carry out all work aimed at creating the "List." This was despite the fact that this particular institution had concluded direct agreements with foreign manufacturing plants on conducting experiments involving the preparations in exchange for hard currency. This was the main reason for the malpractice committed by the institute's director M. Motuzynskyy and his deputies A. Podrushnyak and A. Bolotnyy. They were the authors of the "List" (other specialists of the Institute learned about its existence only during the procurator's inspection), which included highly toxic, mutagenic, carcinogenic, teratogenic, and other chemical substances. Some of the preparations had been banned in the manufacturing country, while others, such as, for example, "harness" [kharnes] (the United States), were not even registered, because the date for the end of testing them is May 1995. The "List" also includes the preparation "tigam" [not further identified], which was described by the former Union's State Commission in the following way: "Highly toxic, possesses carcinogenic properties, causes dermatitis and allergic diseases...," or the TMTD, which is "characterized by the harmful effect on sex organs and fetuses, may cause mutation, is teratogenic and carcinogenic, and impairs the reproductive function...," and other similar chemicals.

In December 1993 and January 1994, the Procurator General's Office checked the state of affairs. The time was not chosen at random. The sowing campaign will soon start, and it is precisely during these months that agreements are concluded with foreign firms on deliveries of pesticides. That is why the inspection was also preventive in character. Its task was to preclude possible crimes now, rather than state the facts of their perpetration later.

Unfortunately, even today, the situation does not give reason for optimism. No effective measures have been taken by the Cabinet of Ministers, Ministries of Health and Environmental Protection, or other institutions to eliminate the violations or abuse revealed by the Procurator's Office. The government commission set up last June by the directive of vice premier V. Demyanov, did not conduct the inspection properly and focused on the unjustified protection of leading officials, who violated the law (if you remember, it was precisely V. Demyanov who permitted the purchase and utilization, on 1,600,000 hectares of cornfields, of the preparation "harness," which is hazardous to health).

The conclusions drawn by the government commission make it possible to assert that its members do not know the true state of affairs in the branch. Their conclusions do not correspond to objective circumstances, contradict the requirements of the current legislation, and do not take into account the interests of the state and citizens. For example, the members of the commission keep referring to the use, in foreign countries, of some of the preparations in question. However, the commission does not take into account the fact that Ukraine is subjected to much contamination, including radioactive. Nor are the low level of culture in using pesticides and the extremely inefficient state control, especially over the quality of agricultural products, taken into account. Today, more than 90 percent of plant-growing products reach the consumer without being previously inspected. Such a situation prevails in all Ukrainian oblasts.

Some chemicals have become global pollutants even of foodstuffs and not only of the environment. The staple foodstuffs alone were found to contain the traces of 72 types of pesticides, including those that are extremely hazardous to health: "Dipterex, methyl parathion, DDT, phosphomile [fosfomil]," "copper" and "mercury" compounds, and so on. Pesticides have been revealed in dairy products and even in baby food. Dairy products also contain preparations that are used for the treatment of the seed prior to sowing. Despite the alarming results of testing preparations that are imported into Ukraine, no measures are taken to at least restrict their utilization.

As a matter of fact, the entire territory of Ukraine has now been transformed into a "chemical proving ground" for testing extremely harmful substances purchased abroad. Foreign firms "study" their preparations on ordinary agricultural lands, and not on experimental fields. Of course, the resulting produce is not destroyed, but is offered to the Ukrainian population for consumption. For example, the firm "Monsanto" (the United States) tested a mixture of chemical substances that do not even have names in Donetsk Oblast. (In the same oblast, the firm stores pesticides, the majority of which are not registered in Ukraine.) The same firm also conducted experiments in the "Boryspilskyy" state farm in Kiev Oblast. Similar examples may be quoted for other Ukrainian oblasts.

The government commission headed by Academician Kundiyev has "overlooked" this and many other problems. This is very strange, since in October 1992, Yu. Kundiyev gave a negative assessment of the aforementioned "List." His conclusions on the carcinogenic, mutagenic, and other hazardous properties of a number of preparations became one of the reasons for conducting the procurator's examination. All the more unfathomable are his subsequent actions both as chairman of the governmental commission and, today, as head of the commission of experts expected to prove that the preparation "harness" may safely be used in Ukraine's agriculture.

The composition of the government commission, appointed by vice premier V. Demyanov, also suggests that its main task was, after all, to promote departmental interests. It included, first and foremost, agricultural experts and only two medical specialists: Academicians Yu. Kundiyev and Ye. Honcharuk. This is despite the fact that the inquiry by the Procurator's Office mainly raised the question of taking urgent measures to prevent the negative effect of pesticides on the health of the population.

Regarding Academician Honcharuk, it was, to put it mildly, unethical to include him in the commission. The thing is that he, jointly with UkrNDIGINTOKS' director Motuzynskyy and the latter's deputy Podrushnyak, had founded a small enterprise "Scientific Medicine." In December 1992, the Institute illegally transferred 1.5 million karbovantsi to the enterprise (the money was returned during the procurator's inspection). Despite such circumstances, Ye. Honcharuk, as a member of the commission, was inspecting the validity of the actions by Motuzynskyy and others.

It is a great pity that the governmental commission did not want or could not see or feel the significance of the extremely alarming problem: Owing to the greed of some officials and negligence and incompetence of others, Ukrainians are in danger of becoming transformed into mutants without a hope for the future.

The actions by the Cabinet of Ministers and the Ministry of Health are no more reassuring. They ignored the demands by the Procurator General's Office that the revealed violations of law be corrected. Ukraine's chief sanitary inspector V. Mariyevskyy and deputy directors of the UkrNDIGINTOKS A. Porushnyak and A. Bolotnyy have not been dismissed from their posts to this day. As regards Mr. Motuzynskyy, he feels very much in his element. He now heads a laboratory at the same Institute. Ties with foreign firms, the signing of agreements, and expert analyses have all remained in his hands.

Impunity has always given rise to new violations. For example, the state association "Ukrahrokhim" brought considerable quantities of the preparation 2.4 D, which is not registered in Ukraine, to Khmelnytskyy, Kharkiv, and Kirovohrad oblasts. At the same time, recently appointed chairman of the State Commission for Chemistry V. Petrunek, without coordination with the Ministry of Health, is issuing permits for importing unregistered preparations: The "Bishevskyy" state farm (in Donetsk Oblast) received the pesticide "MON44068" from the firm "Monsanto," and the Rivne company "Rise" [Raiz]—the foreign-made preparation "40-percent dialene" [dialen].

It is alarming that officials of all ranks, from the minister to the head of a rayon plant-protection station, may issue permits for deliveries of foreign-made pesticides. For example, the preparation "burex [bureks]-430FLO" was brought into Ukraine and passed through the Customs with the help of a letter from the chief of the Holoshchanska rayon plant-protection station, and the herbicide "aminopilek [aminopilek]-9"—with the help of a letter from the chief of the Rivne station. The same picture can be seen everywhere. The chemical genocide against the Ukrainian people continues.

Of course, the Procurator General's Office is taking measures to protect state interests. However, the resolution of many problems is outside its jurisdiction. It is necessary, first and foremost, to resolve all problems on the basis of legislation and this is the prerogative of the government and parliament.

I will add this in conclusion: In December 1993 and January 1994, the Procurator General's Office tried to check the local court proceedings on the relevant cases. It turned out that, by that time, they had already been stopped. An examination of the materials showed that the facts had not been properly checked. Even expert analyses were not done properly. The Procurator's Office canceled the resolutions on stopping these criminal cases and united them. Kiev's Internal Affairs State Administration is currently continuing the investigation.

As we can see, the law-enforcement bodies are doing everything possible to prevent the further poisoning of the

country's environment and population. However, we hope that the Cabinet of Ministers, the parliament, and, in particular, candidates for the new Supreme Council, will include the ecological issue as a major issue in their programs and will, in the final analysis, be instrumental in stopping the chemical poisoning of the people.

Central Government, Localities Squander Ecological Funds

94WN0156A Kiev GOLOS UKRAINY in Russian 14 Dec 93 p 3

[Interview with Olga Kolinko, Ukraine deputy procurator general, conducted by Leonid Gashin: "Fines (!) Are Being Squandered"]

[Text] **Throughout the entire world there is a legal norm according to which those who pollute and destroy nature must pay. This is also stipulated by Ukraine's Law on Environmental Protection. Money exacted from enterprises, officials or just citizens is supposed to be used for the purposes of environmental protection. Seventy 70 percent of this money is to go for establishing nonbudgetary environmental funds under local soviets, and the rest of it is to go for establishing a state environmental fund.**

Recently the Ukrainian procurator general checked up on fulfillment of the requirements of legislation regarding the establishment, formation and use of these funds. Olga Kolinko, Ukrainian deputy procurator general, tells about the results of this inspection.

Kolinko: Before talking about the environmental funds' receipt of funds and expenditure of them, it should be said that these funds do not yet exist in all oblasts. Often they are not established under rural soviets until after the procuracy has intervened. That was the case in Odessa, Kirovograd, Sumy, Cherkassy, Volynskiy and Zhitomir oblasts. Because of that, money collected for the violation of environmental-protection legislation and for the restitution of losses went into the accounts of the rayon finance departments or was left for the use of monitoring agencies. In 1991-1993 environmental funds in Ukraine failed to receive at least 100 million karbovantsy for this reason.

In other places, enterprises' payments were credited to the rayon nonbudgetary fund. In Perevalskiy Rayon, Lugansk Oblast, such a fund has been established under the rayon state administration, rather than under the rayon soviet. Another example in which payments have been misdirected: The Lisichansk Petroleum Refinery, in transferring 5 million a year to the city soviet's nonbudgetary fund, does not pay a single kopeck to the Belogorovka, Maloryazantsevo or Volcheyarovka settlement soviets, on whose land it is located. However, they should be the first to be compensated by the refinery for its harmful impact on land, bodies of water and air.

And very often people at the local level "forget" that payments for environmental pollution are supposed to go precisely to city and rural soviets. And the rayon and oblast soviets may receive only part of the payments for the use of natural resources.

Gashin: But do the soviets always receive those payments?

Kolinko: Unfortunately, no. Today a situation has developed in which payments are made only by conscientious—as strange as this may sound—polluters. The amount of those payments is supposed to be determined by the local state administration, and agencies of the Ministry of Environmental Protection and Natural Resources are required to report allowable levels of discharge to them. However, the job of making the necessary calculations has been transferred to the enterprises themselves, and the agencies in question merely confirm the figures that are presented to them. Therefore, not wanting to pay, enterprises are in no hurry to make the calculations.

To this day, allowable levels of emission and discharge have not been set for more than 100 enterprises in Odessa, Donetsk and Zhitomir oblasts alone. And in Kupyanskiy Rayon, Kharkov Oblast, for example, one in every three enterprises is not making payments because of the lack of any set allowable levels.

The state also sustains considerable losses because of flaws in the recalculation of payments. Given today's inflation, delays play into the enterprises' hands, especially since local soviets and state administrations, and state administrations of the Ministry of Environmental Protection and Natural Resources have not been exercising their powers to charge penalty fines.

There have also been cases in which enterprises have simply been relieved of payments for environmental pollution. This has been done either by agencies that lack the power to do so, or without grounds for doing so.

Gashin: And just how is the money that does actually end up in nonbudgetary environmental funds being utilized?

Kolinko: That is where the greatest number of violations were uncovered. For example, last year the executive committee of the Zolochevskiy City Soviet in Lvov Oblast allocated 4 million karbovantsy to hold a gala concert during the celebration of the city's 500th anniversary. Altogether, in 1992 about 15 million karbovantsy was spent out of the nonbudgetary funds to build roads, landscape cemeteries, hold soccer tournaments and acquire equipment. In Kharkov monies from the fund were used to augment the social development fund and fund for the social protection of the population, and to provide loans, while in Yenakiyevo, Donetsk Oblast, such monies were used to improve the health of the employees of the city soviet executive committee, the tax inspectorate and the civil defense agency.

The most violations of this sort occurred in Kirovograd, Lugansk, Volynskiy and Ivanovo-Frankovsk oblasts and the Crimea.

The problem is that the statutes on nonbudgetary environmental funds that have been confirmed by nearly all the local soviets do not accord with existing legislation. This includes that part of the statutes that pertains to the funds' use.

Gashin: That's at the local level. What about the "center?"

Kolinko: No better. Local deputies "copied" those very statutes from the Statute on the State Nonbudgetary Environmental Protection Fund that the government confirmed last year—a statute that also codifies the unlawful expenditure of "environmental" money. Therefore, it is no surprise that over the course of 1991-1992 monies from the state fund were spent to index the wages of scientists working under contracts with the Ministry of Environmental Protection and Natural Resources, to support the journal RODNAYA PRIRODA, and to make contributions to all manner of funds.

One gets the impression that environmental-protection objectives are really going unnoticed. After all, last year only one-sixth of the republic fund was utilized. And this year, having 80 million karbovantsy and 20 million in hard currency at its disposal, the Cabinet of Ministers, based on a representation by the Ministry of Environmental Protection and Natural Resources, has confirmed an estimate of only 28 million karbovantsy.

That is not the end of the "bad examples" that the center has set for local governments. For example, Instead of transferring to the state fund 30 percent of the fines and sums paid in restitution for damages that had been collected, agencies of the Ukrainian Gosrybkhoz [approximate expansion: State Committee on the Fish Industry] spent more than 1 million to pay bonuses to their employees. Only at the procuracy's demand was the violation eliminated. Back last September the Ministry of Environmental Protection and Natural Resources sent out a letter explaining that enterprises supposedly had to pay restitution for damages only when those damages were caused by the accidental discharge of pollutants. Following a protest by the Ukrainian procurator general, the unlawful explanation was withdrawn. However, for nearly a year the Ministry of Environmental Protection and Natural Resources filed no claims for the restitution of damages.

Gashin: Why has such a widespread practice of ignoring the law become possible?

Kolinko: The soviets of people's deputies, local agencies of the state executive branch, and specially authorized state agencies, especially the Ministry of Environmental Protection and Natural Resources, have made fundamental miscalculations and errors in setting their priorities for monitoring activities. There's the main reason.

And the violations of the law really are widespread, and they exist in every oblast, without exception. If we do not get rid of them, they could cause substantial damage to the state's interests.

Gashin: Has the procuracy already taken any measures?

Kolinko: Based on the results of the inspection, 83 orders to eliminate violations have been issued, 63 protests have been lodged, and 147 claims have been filed for collection of a total of more than 80 million karbovantsy. Considering the seriousness of the situation, a representation has been made to the Cabinet of Ministers demanding the urgent elimination of violations. I. Plyushch, chairman of the Ukrainian Supreme Soviet, has been informed.

The government has responded rapidly to our efforts, the Supreme Soviet Commission on the Environment and the Rational Utilization of Natural Resources has expressed its gratitude, and reports have been coming in from localities where efforts are also being made to rectify the situation.

Report Cites Two Hundred Eighty-Two Cases of 'Critical' Pollution in 1993

AU1102122894 Lvov ZA VILNU UKRAYINU in Ukrainian 5 Feb 94 p 2

[UKRINFORM report: "We Harm Ourselves and Nature"]

[Text] Last year, 282 cases of critical environmental pollution were recorded in Ukraine. They caused 1.3 billion karbovantsi [K] of damage. Almost all of these discharges affected water reservoirs. The greatest number of such accidents occurred in the following oblasts: 39 in Poltava Oblast, 27 in Ternopil Oblast, 22 in Khmelnytskyy Oblast, 18 in Kirovohrad Oblast, and 17 in Ivano-Frankivsk Oblast. One of every nine of the inspected facilities (virtually all those in Lvov Oblast) exceeded the norms for discharging contaminated waste. Reporting these figures, the Ministry of Statistics points out that, last year, inspectors prevented more than 6 million cubic meters of liquid waste from being discharged into natural water reservoirs and 13,000 tonnes of dry harmful waste from being released into the atmosphere. Fines totalling K152 million were imposed for violations of the nature conservation laws and more than 21,000 officials were called to account.

REGIONAL AFFAIRS

Pollution, Fish Dominate EU Enlargement Negotiations

AU2102194594 Paris AFP in English 19000 GMT 21 Feb 94

[Text] Brussels, Feb 21 (AFP)—Disputes over truck pollution and fish were dominating a European Union [EU] ministerial meeting here Monday [21 February] on negotiating terms to let four applicant countries into the EU, diplomats said.

The meeting stretched into the night as European Affairs ministers prepared for negotiations Tuesday [22 February] with counterparts from the applicant countries—Austria, Finland, Norway and Sweden.

Monday's meeting was dominated by Austria's attempts to curb polluting truck traffic over the Alps, and Spain's efforts to extract a high price for Norway's integration into EU fisheries affairs.

"We are not the ones doing the asking. The union is warning that applicants must accept EU rules," Belgium's European Affairs Minister Robert Urbain said.

Hanging over the meeting was a decision by Swiss voters on Sunday [20 February] that all truck traffic across the Swiss Alps must be switched to rail, for environmetal reasons.

Switzerland is not among the current applicants for EU membership, but diplomats pointed out that Austrians might follow the Swiss example by also taking a hardline environmental stand in the Austrian Alps.

Austria is insisting on maintaining strict limits on truck traffic across the Alps until 2004, seven years later than accepted by Brussels.

As a member of the EU, however, Austria would be expected to accept its fair share of the huge truck traffic flow across the EU's single market, which might be unacceptable to its voters.

The diplomats warned that the traffic flow across Austria could increase because of trucks diverted from Switzerland, adding fuel to the environmentalist anti-EU movement in Austria.

In the fish dispute, Spain was insisting at Monday's meeting that its fishing fleet, the biggest in the EU, be given access to Norway's fishing waters as part of a membership deal.

France and Ireland were also pushing for protection from cheap Norwegian fish exports.

And the EU countries were battling with another important consequence of taking Austria, Finland and Norway into the union—the need to cut their high agricultural prices down to EU levels.

Prices in these countries are inflated by hefty subsidies needed for the survival of farmers in harsh Arctic and Alpine conditions.

The two sides are split over how to cushion the effect of price equalisation, and the EU's demands that the applicant countries should bear the full cost.

Adding pressure to the negotiations is a deadline of February 28 for finishing them so that the applicants can join the EU by January 1 next year.

The EU's Greek presidency has pencilled in February 25-28 for a final four-day negotiating bid to reach agreement before March 1.

Official Says EC Still Looking at Energy Tax

AU0202183594 Paris AFP in English 1759 GMT 2 Feb 94

[Excerpts] Brussels, Feb 2 (AFP)—The European Community is still trying to keep alive its proposals for an energy tax, even if this means granting exemptions to the countries most opposed to the measure, an EC official said here Wednesday [2 February].

He was speaking after Jacques Delors, president of the EC's executive European Commission, told environmentalists earlier this week that he would continue fighting for the tax to the end of his presidency on December 31. [passage omitted]

But the EC official said Delors was prepared to concede exemptions "to one or two countries" if necessary to push the proposal through.

The energy tax aims primarily at reducing vehicle emissions of carbon dioxide. It was originally supposed to start at the equivalent of three dollars a barrel of oil and rise to $10 by the turn of the century. [passage omitted]

European Commissioner Sees Environment as EU's 'Driving Force'

PM0402151694 Barcelona LA VANGUARDIA in Spanish 29 Jan 94 p 24

[Antonio Cerrillo report: "Environmental Action Will Be EC's Economic Driving Force"]

[Text] Barcelona—European Commissioner for Fisheries and the Environment Ioannis Paleokrassas has asserted that measures to preserve the environment will be the main source of job creation in Europe over the next few years. "Protection of the environment will be the driving force for the growth of the European Union [EU]," he said in a lecture delivered at the Catalan Employers for Europe organization, where he was introduced by its chairman, Carles Gasoliba, before a very large audience comprising representatives of the administration and industrialists.

During his address, Paleokrassas, a Greek conservative politician who was twice a minister in his country, outlined the main aspects of the EU's new environmental policy. He said that this seeks to banish the idea of industrial production based on the depletion of natural resources and replace it with a principle aimed at protecting and safeguarding this natural heritage for future generations. He also stressed that protection of the environment should not be just a policy in itself but should be a precondition for industrial expansion.

"The new course in environmental policy (the Commission's white paper) is that economic and fiscal means should be used, instead of having recourse to the old methods of legislation and controls," among other reasons, "because it has been seen that this is not effective," Paleokrassas told

this newspaper. To this effect, the commissioner favored the view that products should include the environmental cost stemming from the natural resources which they deplete, the pollution which they produce, or the waste which they create.

Within this same strategy, he supported the EU Commission's decision to impose ecological taxes in order to increase the cost of using energy sources which cause carbon dioxide emissions, as a way to alleviate the greenhouse effect. He said that unless this method is used, the volume of carbon dioxide emissions would not be stabilized at the 1990 levels, which the EU had set itself as an overall target. "If the carbon dioxide tax is not adopted, studies show us that it would exceed the 1990 levels by 3 percent in the year 2000," he warned.

To the same effect, he supported Jacques Delors' proposal for "waging a crusade" to extend this ecological tax to the whole world. "The greatest danger is of these emissions increasing in the rest of the world, where there is no control," he added.

He refuted the idea that the economic crisis relegates environmental concern in this way: "In Europe, measures in the environmental field will create at least 2.5 million jobs over the next five years, and other studies show that this figure could rise to 5 million," he stated.

Paleokrassas deemed generally "insufficient" the programs drawn up by the various countries in order to fulfill the commitments which they undertook at the Earth Summit (1992) in signing the Climatic Change Treaty, and asserted that only Europe has drawn up plans to combat the effects of a possible climatic change.

On the implementation of Community directives, he said that Spain in general carries out those concerning the protection of birds, "but the degree of fulfillment is not so satisfactory in the case of public works and conducting environmental impact studies. Spain is in an intermediate position; it is not among the worst," he summed up.

European Nuclear Waste Storage-Related Issues Analyzed

Paris LE MONDE in French 12 Jan 94 p 12

[Article by Jean-Francois Augereau: "Nuclear Waste: Worldwide Problem"]

[Excerpts] Installation of Storage sites Is Posing Problems Everywhere in the World

Where should waste from nuclear projects be stored? How can it be done under conditions acceptable to all? The issue is so sensitive and the public is now so watchful and cautious that the governments of nuclear energy producing countries think twice before presenting their proposals. Ten years ago, who would have predicted the proliferation of mediators, sent to the front lines by public administrations, nuclear industry manufacturers, and brand-new agencies in charge of managing this waste, to inform, reassure, answer questions, and consider everyone's probing and apprehension before reaching any decisions?

Nuclear power can no longer be forcefully imposed; public administrations have understood this and have learned their lessons from the past. In February 1990 the Rocard government, aware of difficulties it would encounter if it imposed this or that site for storage of highly active waste from the nuclear industry, chose to halt hostilities with the determined population on 9 February 1990 and to let time do its work. Of course this decision was not completely devoid of electoral considerations, but excessive coercion eventually creates a trap which Rocard wanted to avoid by declaring a one year moratorium on the management of these awkward waste products.

The 30 December 1991 law on this issue has formed a legislative framework for any new steps in this regard and given mediator Christian Bataille the heavy responsibility of consulting constituencies and collecting voluntary proposals from communities interested in the installation of an underground laboratory for research on nuclear waste. This was a good initiative and about 30 such proposals came quickly to light.

Today, four departments, Gard, Haute-Marne, Neuse, and Vienne have been tentatively selected by Bataille (see LE MONDE of 6 January) and the government has just authorized the Radioactive Waste Management Agency (ANDRA) to begin geophysical surveys of the sites. Here again, cautiously, the authorities will take their time for one to two years before reaching any decision.

Groundbreaking for the laboratories, which will cost 1.5 billion francs each, cannot begin before the end of 1997 at the earliest, which means that operations would begin in 2002. This would be followed by eight years of research on site quality (nature of bedrock, water flow study, deeply-imbedded materials performance, and so on); this is because ANDRA is not scheduling materials storage before 2020 at sites that have yet to be determined assuming the program is authorized to continue after Parliament deliberations around 2010.

This surfeit of caution is not unique to the French authorities: all nuclear energy producing countries are facing the same type of problems. As a matter of fact, France is managing fairly well at present with its surface storage for low radioactivity waste at the Hague (Manche) which is filled, and at Soulaines (Aube) which has just opened. The only remaining problem is to so to speak, settle the delicate issue of permanent storage of highly active waste. One step has just been taken with Bataille's report. Many other countries wish that they were that far along.

Strong Local Opposition

In Europe the situation has more facets as a few examples will illustrate. In Germany where disagreement is sharp, it is clear that all nuclear industry waste will be stored underground regardless of its radioactive level. Storage has already been established at two locations for low- and medium-activity radioactive waste: at the former salt mines in Morsleben near the old East German border, and at Asse (Lower Saxony). The latter has in fact been for some years, the site of international experiments for storage of high radioactivity waste.

Two other sites also in Lower Saxony are currently being discussed as possible storage centers. The first is in Gorleben where two wells are being drilled in a salt dome for high radioactivity waste, the first shipments of which may come in 1994 and 1999 from France and Great-Britain. But work on this project has been stopped. The second is at the Konrad iron mine for less radioactive material. But its placement into service is being hotly contested between the federal government and the Lower Saxony authorities.

In Switzerland where there a research laboratory in granite already exists at Grimsel, nuclear industry waste is housed on-site at plants and research facilities, while waste resulting from other industry activity has been temporarily stored since 25 November 1992 at a 9.3 million Swiss franc installation in Wurenlingen in the Argovie canton. For permanent storage, the Cooperative for Radioactive Waste Storage (CEDRA) approved in June of last year a center whose cost is estimated at 500 million francs and which would be built in Wellenberg in the semi-canton of Nidwald.

Swedish Example

But canton authorities are blocking current construction based on their recently acquired legal power to grant licenses for underground utilization. Many discussions must yet take place before Parliament issues a decision (in 1997?) on this proposed center whose operation could begin in 2005. As for high radioactivity waste, this is only the beginning.

Preliminary drilling intended to analyze the nature of the soil (granite and gneiss) has already been conducted in the northern part of the country in Bottstein, Leuggern, Weiach, Kaisten, Schaffisheim and Siblingen. Other drilling operations have been requested by federal authorities to prospect clay deposits in the Aar Valley and in the area between Baden and Schaffhouse. But as the JOURNAL DE GENEVE pointed out last summer, in Siblingen, the canton authorization procedure for drilling took six years while at the federal level it took one year and eight months. "All that time to come to the realization that the site was not suitable..."

Clearly waste management is not an easy matter and according to nuclear energy promoters it is hampered less by technical difficulties than by social and political problems. The country currently having the most success in resolving them is Sweden, whose early decision against reprocessing irradiated fuels at its plants has made the choices easier.

Sweden has an underground facility, the SFR, carved out of granite on the Baltic coast not far from the Forstmark plant, which since April 1988 has been used for permanent storage of low and medium radioactivity waste. At the same time the Stockholm government in the early 1980's commissioned an enormous underground storage center in Oskarshamm, the CLAB, intended for storing irradiated fuels from Swedish plants for 40 years before they are permanently buried in the substrata of the country's two northern communes situated right in Lappland near Arjeplog and Overkalix (see LE MONDE 17 September 1992).

Discussions are underway to determine which of these two locations may receive these vexatious ashes. There is no hurry, even if it takes time to win over a very skeptical public opinion. This is why, in spite of CLAB's intermediate storage (CLAB received its first highly radioactive shipments in July 1985), the Swedes want proof "through a dress rehearsal" that their permanent storage plan in granite is efficient.

The Swedish Fuel and Radioactive Waste Processing Company (SKB) has thus begun drilling a deep tunnel in granite at Orskarshamm near CLAB; this is the Aspo Hard Rock Laboratory (HRL) which is intended to serve as proving grounds for the engineers. The whole facility should be completed at the end of 1994 or the beginning of 1995. But unlike its Canadian counterpart, URL at Pinawa in Manitoba, this underground laboratory will not be converted to a storage site.

AUSTRIA

Signatures Collected Against Czech Nuclear Power Plant

AU0602164394 Vienna KURIER in German 6 Feb 93 p 6

["E.M." report: "Austria Collects Signatures Against Temelin Nuclear Power Plant"]

[Text] The threat posed by the Czech nuclear power plant in Temelin near the border now leads to activities among the population: On the one hand, advance notices of damages at a value of 3 trillion schillings have been sent from Austria to the U.S. company Westinghouse. On the other hand, the environmental organization Global 2000 is starting a large-scale signature campaign: It calls on U.S. Congress deputies to prevent the financing of Temelin: "The nuclear power plant project has already been rejected by the World Bank and other banks with reference to cheaper and safer alternatives," the lists of signatures say: "Therefore, we are appealing to you not to support the short-term economic interests of the U.S. nuclear industry."

This campaign is supported by Education Minister Rudolf Scholten: "If signatures are collected in schools, I endorse that." The first prominent person to sign is [singer] Rainhard Fendrich. Lists for signatures can be obtained at "Global 2000," 1120 Vienna, Flurschuetzstrasse 13, telephone 0222/812 57 30.

Prague environmental activist Petr Hlobil of the Czech environmental organization "Children of Earth" believes that "the majority of the people in southern Bohemia are against the project." Organized resistance is already forming, according to Hlobil. Hlobil does not accept his government's argument that Temelin is necessary to close down the outdated coal-fired power plants in northern Bohemia. Until 1995-96—the earliest date of Temelin's coming into service—most of the coal-fired power plants in the region will already have been closed down or improved. Only 430 of the 2,000 megawatts of Temelin will then be needed in northern Bohemia.

BELGIUM

Formaldehyde Level May Force European Parliament Evacuation

LD1002113894 Brussels Radio Vlaanderen International in English 1000 GMT 10 Feb 94

[Text] The new building of the European Parliament in Brussels may have to be evacuated due to high concentrations of formaldehyde, a substance which is thought to be cancer-inducing. It is used in lining of conference halls and offices. Measurements have shown that the air inside the Parliament building contains three times more formaldehyde than the legal limit. The study dates from October and results were eventually disclosed by Paul Staes, a member of the European Parliament for the Flemish Green Party Agalev. New measurements were made last week and these have confirmed earlier findings. The air was analyzed after complaints from personnel at the European Parliament that they were getting headache and runny eyes inside the building. The air conditioning system is now working at all times in the building.

The problem at the European Parliament building is reminiscent of what happened to the headquarters of the European Commission in Brussels. That building was evacuated a number of years ago after asbestos levels were found to be dangerously high.

London Convention Banning Nuclear Dumping in Sea Signed

BR1402110294 Brussels BRTN-TV1 Television Network in Dutch 1830 GMT 11 Feb 94

[Correspondent Ivan De Vadder report over video introduced by newscaster Martine Tanghe]

[Text]

Tanghe: Belgium will now sign the London Convention which forbids the dumping of low levels of nuclear waste into the sea. Over 60 countries signed this agreement late last year while Belgium abstained. The government has decided to sign the convention but wants to find a solution before the end of the year so that radioactive waste can be disposed of on land.

De Vadder: *[video shows dumping of radioactiuve waste]* Belgium was one of five countries last year that did not sign the international ban on the dumping of nuclear waste into the sea. France, China, Great Britain, and Russia also abstained. Until 1982, Belgium dumped low levels of radioactive waste in the Gulf of Biscay [off the Spanish coast]. A moratorium was introduced a year later and imposed a halt for 10 years. When 67 countries declared themselves in favor of a ban on such dumping late last year in London, the Belgian Government decided to extend the moratorium until the year 2000. This decision was dictated by the problems of nuclear waste processing with which the Belgoprocess plant in Dessel [northern Belgium] is now dealing. The objective is to get rid of part of the nuclear waste for good somewhere in our country. As long as no decision had been made on this subject, the government hesitated in signing a ban on sea dumping, not because it intended to resume dumping waste into the sea but because it did not want to rule out this option. Belgium will now adhere to the ban and Environment Minister Sentkin wants to find a final solution to the disposal of low-yield radioactive waste in our country by the end of the year.

CYPRUS

Ministry Renamed To Reflect Environmental Role

NC0302213894 Nicosia Cyprus Broadcasting Corporation Radio Network in Greek 1600 GMT 3 Feb 94

[Text] A law adopted by the House of Representatives provides for renaming the Ministry of Agriculture and Natural Resources the Ministry of Agriculture, Natural Resources, and Environment. AKEL [the Restorative Party of the Working People] abstained from the vote, claiming that a simple change of ministry name would be a move without substance if there is no prior discussion and correct decisionmaking on the structure of departments that will deal with environmental issues. Democratic Party deputy Nikolaos Mousiouttas also abstained from the vote, claiming that the importance of environmental issues is diminished when they are simply made part of another ministry.

FINLAND

Clear-Cutting Increasingly Common in Northern Forests

94WN0141B Helsinki HELSINGIN SANOMAT in Finnish 4 Jan 94 p 5

[Article by Tapio Mainio: "Clear-Cutting Forests Continues in the North"]

[Text] Clear-cutting and deep ploughing have not vanished from the forests of northern Finland. There is no limit on the size of clear-cut tracts in privately owned forests. In state owned forests, on the other hand, 30 hectares is the maximum size of any single clear-cut tract.

"Every year a few clear-cut tracts exceeding 30 hectares are cut. The size of the clearing is ultimately for the landowner to decide, although we do recommend smaller clearings," says Tommi Lohi of Kemijarvi, the director of the Forestry Board of Northeast Finland.

Deep ploughing, also called rim ploughing is still a commonly used way to turn over the soil surface in northern forests.

"About 60 percent of the harvested areas within the Forestry Board of Northeast Finland region is ploughed. The remainder is treated with milder operations such as either spot treatment or harrowing," Lohi adds.

The Forest Service will be ploughing forests yet this year and only in the far north. The methods used are either the deep ploughing or edge ploughing. Deep ploughing creates a trench even 1 meter in depth. The trench from edge ploughing is 20 to 30 cm deep.

The Forest Service will replace the practice of ploughing with ditch tussocking, in which the stones dug up by the ploughing will be replaced into the trench. Additionally sticks and stumps can also be placed in the trenches to prevent the excessive leaching of nutrients from the forest.

In ditch tussocking the trenches are left 15 meters apart, whereas in normal forest ditching they are about 6 meters apart.

"We are not inclined to start ditch tussocking, for it is twice as expensive as ditching. These modernizations seem to be jumping from the frying pan into the fire. Ditch tussocking just might make the harvest clearings into brush jungles," Martti Rautiainen, operations chief of the Kuusamo Common Forest, says skeptically.

Committee Debating Methods

Just a few years ago the Kuusamo Common Forest made clear-cuttings of over 100 hectares but now, according to Rautiainen, each harvest area is, at most, 30 hectares in size.

"Now the importance of forest borders for forest regeneration has been noted," adds Rautiainen.

At the current time the broad-based, environmental program committee of the Ministry of the Environment is debating, among other things, forest soil turning methods and the size of the clearing.

"The maximum size or soil-turning method could either be recommended or stipulated as a condition for support or financing," says Juhani Viitala, the chairman of the committee and head director of the Ministry of Agriculture and Forestry.

In 1950, the Forest Service harvested, in Pudasjarvi for example, from clear-cuttings as large as 230 hectares, whereas the current maximum clearing size is 10 hectares.

"The dramatic change took place in 1969, when a maximum size of a clearing was established at 30 hectares. That was when we could see the problems created for forest regeneration by harvest clearings of even thousands of hectares," relates Heino.

In 1978 the Forest Service increased the maximum size of a clearing to 50 hectares, and in 1985 reestablished it at 30 hectares.

Now the size of the clearing in northern Finland is 10-30 hectares, depending on site growth conditions, and at high elevations the size is even smaller than this. "The same applies to recommendations to privately owned forest management also," adds Heino.

There are differences in the way harvests are conducted on privately owned forests, depending on the attitude of the forest landowner or forest products corporation.

DER SPIEGEL Criticism of Forestry Strategy Aired

94WN0141A Helsinki HELSINGIN SANOMAT in Finnish 2 Jan 94 p 2

[Guest commentary by Rauno Sairinen: "Finland's Forestry Strategy Faulty"]

[Text] The German magazine, DER SPIEGEL, has initiated a discussion on Finnish forestry. The Finnish representative in Greenpeace, who was interviewed as a result of the article, criticized our forest products industry with some very frank words. Defenders of our forest products industry were irritated.

The reaction indicates that at least the level of our discussion on environmental issues has not kept pace with Central European standards. We accept Greenpeace's highly visible campaigns against Norwegian whaling and Russian dumping of nuclear wastes in the sea. But when our own methods of dealing with our forests were critically focused on, our attitude changed. The esteemed environmental organization instantly became the irresponsible destroyer of Finland's forest products.

One article in a large circulation periodical and hysteria takes over in the country's industry. What's going on here? Researcher Ilmo Massa wrote in the opinion page of the HELSINGIN SANOMAT that the Central European environmental criticism has the marks of the environmental imperialism practiced by the prosperous industrial nations.

It is true that Greenpeace is not always interested in conditions dictated by local economies. It would, however, be overly simplistic to equate the DER SPIEGEL article with the publicity on the Amazon rain forest. There is a difference in scale between these issues. The environmental movements of industrial countries have not systematically attacked Finland's forest products industry. Further, Finland is itself an industrialized country, and it is good that the environmental criticism hits us once in a while, instead of always the impoverished countries.

The DER SPIEGEL discussion reveals the frailty of Finnish industrial and forestry strategy. The arguments of the forest products industry are characterized primarily by a self-enveloping defensiveness. The situation is not analyzed self-critically but the reaction is like that of an offended little boy.

For a long time the possibility of making conservation of the environment the trump card in Finnish competition with others has been a topic of discussion. The government's Forest Service has, however, retreated only in tiny steps on northern environmental disputes. The state has not consented to significant cuts in production objectives of the Forest Service. The silvicultural practices have been modernized slowly and the forest products industry has not accelerated the process, but has retarded it. The results of the failed strategy are evident from the DER SPIEGEL publicity.

The forestry doctrine serves one lord, the paper and cellulose industry. The mechanized forest industry of ours that

proliferated in earlier years has faded away. This kind of condition has long been accepted as being for the common good.

Now this common good and acceptance is becoming fragmented. It appears that, in the long term, the forest products industry will not be able to even maintain its image advantage. The ecology of the forest has undergone drastic changes even though the forest has long meant many things in Finnish minds. It serves more than the cellulose boilers. There is more out there than rows of seedlings of one tree species and hard-to-traverse ploughing scars.

Hunting, berry picking, fishing, orienteering, capturing pictures of nature, hiking in familiar and unfamiliar forests are all important things. The forest is also utilized by tourism, sawmills, the furniture manufacturers, artistic handicrafts, food products industry etc. New forest products could be developed, but sufficient variety of tree and plant species can no longer be found.

There has been much positive progress in our forest management practices. But the clamor over the DER SPIEGEL article shows that our forest management discussion is plagued by a reality-ignoring polarization. As long as the confrontational attitudes between the forest products industry and environmental movement, as well as between employment concerns and ecological priorities remain, the discussion will be stuck on a naive level.

Finland needs defending of multiple use of the forest. Should yet one more group interested in the forest be organized in Finland, a group that would be based on local enterprises and know-how, as well as cultural priorities that consider the forest valuable?

The author is a researcher at the Technological University and chairman of the Association for Societal Planning.

FRANCE

France to Build Nuclear Waste Research Laboratories

Paris AFP SCIENCES in French 6 Jan 94 pp 16, 17

[Unsigned article: "Possible Sites in Gard, Haute-Marne, Meuse, and Vienne for Waste Storage Study Laboratories"]

[Text] Paris—Four departments, Gard, Haute-Marne, Meuse, and Vienne have been suggested as possible sites for installing two underground research laboratories for the storage of nuclear waste, according to a 5 January announcement by Christian Bataille, chief negotiator for these installations. Bataille also announced that "everything indicates that the government will present proposals in the next few days," and he added that only two sites would ultimately be picked.

More thorough investigations led by the Bureau of Geological and Mining Research (BRGM) are planned for 1994 in those departments. It will take another year to officially announce the two sites chosen for installing the laboratories, which are stipulated by the law of 30 December 1991.

While four geological strata—clay, granite, schist, and salt—are considered suitable for holding highly active and long-lived nuclear waste, which is the most dangerous—the Bataille project has retained only the clay and granite options after reviewing the initial geological data.

Bataille and his assistant, the prefect Jacques Monestier, selected six likely departments out of thirty which applied to the negotiators last year—Gard, Marne, Haute-Marne, Meurthe-et-Moselle, Meuse, and Vienne. This selection was later narrowed down to the four mentioned earlier in this article.

Bataille made several recommendations in the report he presented to the ministers of Industry, Environment, and Land Management, Messrs Gerard Longuet, Michel Barnier, and Charles Pasqua. He suggested that "the dialogue" initiated under his authority be "pursued at the national and local levels." When the time comes to build the storage facility—in 2008 at the latest—he requests that the possibility of waste storage reversibility resulting from research conducted by the Atomic Energy Commission (CEA), among others, be taken into account. Finally, according to him, the future of the laboratories once their work is accomplished should be "guaranteed and formalized."

Each laboratory, employing 150 people including about 30 scientists, should require an investment of one and a half billion francs and will serve for fifteen years. Operating costs for each are estimated at 70 million per year in addition to 60 million annually for local development.

Plant Respiration in CO2-Saturated Atmosphere Simulated

BR1802144794 Paris SCIENCES ET AVENIR in French Feb 94 pp38-40

[Article signed Philippe Chambon: "Trees That Breathe Tomorrow's Air"]

[Text] In 50 years' time, the atmosphere will contain twice as much carbon dioxide as it does today. How will the oak, the beech, and the spruce deal with it? A French team has attempted a simulation.

In the heart of the Auvergne hills at Saint-Maurice-es-Allier, 10 or so trees are already living in the air of the year 2050, closely monitored by the INRA's [National Agronomic Research Institute] forestry research center from Nancy. Jean-Pierre Garrec's team has started a rather unusual experiment here: growing trees in a CO2- rich atmosphere.

The young trees—oak, beech, and spruce—have been placed in a chamber with an open top into which scientists inject a gas mixture containing 700 ppm (parts per million) of CO2, twice as much as in the air we breathe today. That is the proportion of carbon dioxide predicted for the middle of the next century. The calculation is simple since the graph plotting the increase of CO2 in the atmosphere is widely known and easy to extrapolate. As for the open-topped chamber technique, this has hardly any effect on the natural environment, which is why it was preferred to simple greenhouses.

Saint-Maurice-es-Allier has the advantage of being a former thermal spa, supplied by the Sainte-Marguerite spring.

Researchers therefore have a free and inexhaustible source of carbon dioxide. The excess gas extracted from the mineral water is all the more interesting because it does not have the same isotopic composition as the CO2 in the atmosphere, allowing scientists to examine how it is metabolized by the plants that absorb it.

This experimental station was opened two years ago. It plays host to researchers from several European laboratories and parts of the IGBP (International Geosphere Biosphere Program). It receives subsidies from the EC and the French ministries concerned (environment, research, and agriculture).

Jean-Pierre Darec explains: "Until now, the impact of atmospheric changes on trees was only studied over short periods. Now we can hope to carry out this work over six years or more." That is a short time compared with the life of a tree, but the researchers, who have already obtained some interesting results, hope to be able to draw some exclusive conclusions.

The Nancy team specializes in analyzing the parts of the plant that come into contact with the atmosphere, i.e. the bark, the skin of the leaves, and the protective wax that covers them. Samples taken at Saint-Maurice are analyzed at Nancy where Didier Le Thiec and Martin Dixon try to assess the changes to the outer tissue of the trees. The first thing they noticed is that there were a lot fewer stomata—a type of leaf pore involved in regulating gas absorption—on the trees living in the atmosphere of 2050. It appears that the plant reacts to the excess CO2 by reducing its number of stomata, while absorbing more carbon dioxide than in today's atmosphere. In fact, this phenomenon is already documented. In certain regions of Italy, natural emissions of CO2 through the soil produce a similar effect on wild plants. However, the air in these regions changes constantly, affected by the wind, for example. In Saint-Maurice, on the other hand, the parameters are kept constant and allow much more reliable measurements to be taken.

Other teams have been examining the herbaria of our forefathers. The leaves conserved in herbaria dating from the end of the 18th century contain many more stomata than leaves of today. Analysis of the air bubbles trapped in the polar ice caps tells us that at that time, the CO2 content was just 280 ppm. How far can this phenomenon go without disrupting plant metabolism? Is it reversible? These are questions for which the Nancy team hopes to find the answers.

The experiment is also aimed at determining whether the changes to the atmosphere can influence the penetration of phytosanitary products and the sensitivity of plants to insect or fungal attack.

While, for the time being, the tests are limited to CO2, a similar line of research is underway to measure the effects on trees of increases in the tropospheric ozone levels (the ozone at an altitude of between 0 and 15 km). "When we have the initial results, we will inject the Saint-Maurice chambers with the amount of ozone predicted for 2050," announced Jean-Pierre Garrec. "We are not afraid of discovering catastrophic effects with the CO2, but with the combination of gases it is quite another thing." Preliminary results are already raising serious questions.

The researchers were naturally expecting the plants to grow better in a CO2-rich atmosphere, since this gas is essential to the production of biomass through photosynthesis. This is effectively what is occurring in the INRA's experimental chambers, except that the growth rate differs surprisingly from one species to the next. Oak, in particular, grows much faster than spruce. "This difference led us to question forestry balances," said Jean-Pierre Garrec. It is possible that the increase in CO2 could favor certain species to the detriment of others and so upset the diversity of species in our forests. However, this is a hypothesis that remains to be verified. The data supplied by the INRA station is still very fragmented and too new to enable us to draw any long-term conclusions.

In the meantime, the Nancy experiments have also attracted the interest of nurserymen, and in particular those that supply towns, since municipalities often ask for fully-grown trees, notably to avoid vandalism. Studies into the growth of trees in a CO2-rich atmosphere could offer them an attractive alternative: moving from the sapling to the young tree in a record time.

GERMANY

Report Indicates Fall in Pollution in Eastern Laender

AU2202163794 Berlin DIE WELT in German 22 Feb 94 p 2

["DPA" report: "Eastern Germany Can Breathe Freely Again"]

[Text] Berlin—Owing to environmental protection measures and production cuts, pollution has decreased considerably in the new laender since unification. According to a report by the Halle Economic Research Institute, the average production of dust and sulfur dioxide decreased by 50 percent in areas with high pollution, and by a third in areas less exposed to pollution. It was, above all, the conversion of coal-fired heating systems to oil and gas- fired ones in more than one million private households that has caused this positive effect.

In the electricity sector the funds for fighting dust, sulfur, and the disposal of ash, gypsum, and water are expected to increase to 20-30 percent of the basic investment. Of the 28 billion German marks of investment in plants expected by 1997, some 40 percent will, however, have to be used for repairing the power network.

Christian Democratic Union's New Program Emphasizes Ecology

AU1002175894 Duesseldorf HANDELSBLATT in German 10 Feb 94 p 7

["na"-signed report: "Decrease of Public Share To Be Yardstick for Financial Policy Decisions"]

[Text] Duesseldorf—In its basic program, to be adopted at the fifth all-German party conference between 21 and 23 February, the Christian Democratic Union [CDU] will enlarge its policy model of social market economy by an ecological dimension. The new basic party program advocates an "ecological and social market economy."

The party's new basic program will realize and update the existing basic program, adopted at the Ludwigshafen party conference in 1978. The party conference submission commission rejected proposals by the Christian-Social workers and several land organizations that had spoken out against expanding the term "social market economy" to read "ecological and social market economy." The ecological extension of the social market economy is one of the most important innovations the basic program has seen.

The draft program that the delegates have been recommended to adopt says that the CDU wants to step up the use of market economy instruments and control mechanisms in order to achieve a more gentle treatment of nature and the environment. The objective of the ecological and social market economy is combining economy, social justice, and ecology.

The CDU considers the principles of po"uter and precaution the basis of an ecological order. It calls for a system where producers and consumers meet the costs resulting from their failures in environmental precaution and from using the environment. This can only be guaranteed if the costs result in honest prices. With this, the CDU wants to stimulate and encourage people to be gentle on the environment.

Ecology in Tax Law

Based on the individual's responsibility in the ecological and social market economy, the CDU speaks out on using all cooperation opportunities before implementing government regulations. But it leaves no doubt that ecological regulations with legal orders and prohibitions, critical values, requirements, and licensing procedures are necessary to efficiently tackle the immediate danger to humans and the environment.

But in order to increasingly use industry's efficiency and innovativeness to serve the environment, the CDU wants to increase the use of ecological control elements in the tax law, environmental fees, compensation regulations, and liability rules.

The CDU basic program also reflects the intensive debate on Germany as a business location. The draft program says that as a country with a scarce supply of raw materials and high labor costs, Germany relies heavily on the efficiency and innovativeness of its people and industry. "With our capacity to achieve the top results we have to concentrate on top quality products and production methods. The cycles of technological progress are becoming ever shorter, requiring a speeding up of innovations."

Strengthening Business Location Germany

For this reason, Germany's competitiveness as a business location depends very much on high standards in research and development, as well as the use of new technologies such as biological and genetic engineering, information and environmental technologies. Environment-friendly products and technologies will be very important in the future. "By further developing our economy to become an ecological and social market economy we can both strengthen our leading role in the field of environmental technologies and secure an important advantage for the future."

In order to strengthen Germany standing as a business location, the CDU suggests:

—Decreasing the public share and cutting taxes and fees;

—Improving education and vocational training, science and research, and its infrastructure;

—Promoting future-oriented technologies and environmental protection;

—Privatizing and cutting subsidies;

—Deregulating and decreasing bureaucratic regulations and requirements, and speeding up licensing procedures;

—Introducing more flexible working hours and longer machine- operating hours;

—Improving information and transport infrastructures;

—In particular, securing social peace and social partnership.

The program turns against protectionism. It says that Germany as an export-oriented industrial nation depends on free trade. Protectionism blocks the dynamics of the economy and prevents innovation.

The consequences of reunification are mainly described in the basic program's chapters on fiscal and financial policy. These chapters say that the framework conditions of financial policy changed drastically for a longer period of time following reunification. "In order to promote the growing together of Germany at a high speed, we have had to put up with higher public debts, an increase in the public share, taxes and public expenditure for a certain period of time. This must, however, be followed by reducing indebtedness, consolidating all public households, reducing the public share in the gross national product, and easing the tax burden in the medium term. The draft says that a reduction of the public share with consolidated public households is the yardstick for all fiscal policy decisions. The CDU wants to create the conditions for reducing debt by redefining public tasks." "We will have to redefine priorities in the public services, what the state and social insurance systems can do, which public services can be controlled via market relations, and which services we will have to cut." The CDU considers structural changes and shifts, cuts in spending, and higher efficiency necessary. "By deregulating, cutting bureaucracy, and privatizing we want to make public services more efficient and cost-effective." The CDU wants to increase the share of public tasks that are financed by special funds, such as prices and fees, and co-insurance. Also, it calls for a comprehensive cut in subsidies. Subsidies should be limited in time and be digressive.

In order to increase clarity and justice, and to simplify administration procedures, the CDU wants to link the tax system and social benefits that are not based on contributions.

Tax Burden To Be Cut

In the medium term, the CDU wants to reduce the overall tax burden and restructure the tax system. The draft program says that the direct tax burden on productive factors such as capital and labor is too high. "We want lower direct tax rates, but a broad tax base with less concessions and exemptions." This is, at the same time, a simplification, and thus increases tax equity. The CDU says that it will have to increase taxes on consumption, especially energy consumption and environmental fees. "By restructuring the tax system along economic and ecological lines, we are setting the course for further development of the ecological and social market economy."

In terms of taxes, real capital must not be at a disadvantage in relation to financing capital. The CDU wants to cut nonprofit-linked taxes and to speed up the harmonization of taxes within the European Union.

Bundespost To Conduct Tests on Electric Vehicles

BR0202110694 Bonn WISSENSCHAFT WIRTSCHAFT POLITIK in German 15 Dec 93 p 2

[Text] In 1995 and 1996, Deutsche Bundespost's postal service, in conjunction with well-known industrial partners, will conduct large-scale trials with electric vehicles powered by a zinc-air system.

The field trial, preparations for which began back at the beginning of 1994 [as published], will be based on the Greven mail center near Muenster in Westphalia. The large-scale trial grew out of studies by the postal service as to how part of its diesel vehicle fleet could be replaced by propulsion systems that caused less pollution. A novel zinc-air power system emerged as a promising prospect, although it is not without its expert critics as regards the overall ecobalance.

However, initial tests, involving outside inspectors, on the new power system installed in a trial vehicle went off successfully at the TUeV [Technical Monitoring Board] for Bavaria and Saxony, its power and output values, which far exceeded those of conventional batteries, and its ecological acceptability proving particularly attractive.

Autonomy Range Considerably Extended

The trials centered on use in the postal service, where requirements are three or four times higher than in the private transport sector. Whereas electric vehicles with an accumulator weight of 350 kg have had a range of about 40 km to date, the new technology permits journeys of at least 300 km.

The large-scale field trials scheduled to begin in 1995 will set out primarily to establish whether the zinc-air power system is economically viable and what its infrastructure requirements are. The latter is necessary because the power cells cannot be charged like conventional storage batteries: The electrodes have to be changed. The "worn-out" electrodes are subsequently regenerated, after which they are ready for reuse. This is why large-scale field trials can only be performed with major fleet operators such as the postal service.

In addition to the postal service, in the role of project leader, and Electric Fuel Limited, the inventor of the zinc-air system, other well-known firms have agreed to take part in the field trial. Some firms and town councils also want to participate in the trial with parts of their own fleets.

More Effective Waste Water Treatment With Biogas Reactor

94WS0148B Frankfurt/Main FRANKFURTER ZEITUNG/BLICK DURCH DIE WIRTSCHAFT in German 7 Dec 93 p 8

[Article by JB: "More Effective Waste Water Treatment With the Biogas Tower Reactor"]

[Text] Anaerobic biotechnical waste water treatment in bioreactors is today already being used by the food industry, pulp production and paper manufacturing companies. The field of bioprocessing technology at the Hamburg-Harburg Technical University (Professor Herbert Maerkl, Denickestrasse 15, 21071, Hamburg) has now, in cooperation with Preussag Noell Wassertechnik GmbH, developed a new type of bioreactor concept for increasing the decomposition effects.

As reported by Maerkl, anaerobic biotechnical cleaning methods are generally held to be less effective than aerobic ones. This is due to the slow rate of growth of the anaerobic microorganisms. However, the decomposition effects per gram of biomass are comparable to those of aerobic microbes. For that reason, if it is possible to increase the biomass in the reactor, anaerobic methods are also very effective. This increase has been achieved with the biogas tower reactor from Hamburg by using the sludge bed process. Another problem with anaerobic bioreactors is transferring the generated biogas to the outside. Gas production can be so high that disposal is impossible to deal with or would lead to a loss of biomass through flotation. This problem is also solved by the tower reactor. Gas suction equipment has been built into the reactor container at various heights. This makes it possible to dispose of gas even at low levels. Technically, the suction equipment works by adding pockets in the form of sloping metal sheets in the reactor volume. They partition the reactor into several compartments connected with each other and catch the rising biogas. The gas bubble formed under the sheet can be drawn off through a vent placed there. By regulating the gas extraction at the various heights, it is possible to regulate the gas content so as to be uniform throughout the reactor. But the gas bubble under the pockets has other advantages as well. By means of the free surfaces formed on the liquid, floating biomass particles are also kept down. Therefore, the gas extraction is possible without loss of biomass. The pockets can also help when mixing the reactor content. It is important for the decomposition effect that the microorganisms and the added waste water are as evenly distributed as possible. Since some microbes live in the form of symbiotic agglomerates, this blending must have as little gravitational force as possible. This problem is elegantly solved in the biogas tower reactor.

If the gas under the pockets is not removed, it continues to rise upward over an overflow edge. Through built-in flow

channels this creates a circulating flow in the liquid. It can be controlled by the level of gas removal. In this way various blending intensities can be regulated in the various compartments of the reactor. The requirement to achieve good blending in the lower reactor areas and a high storage capacity for the biomass in the higher areas is easily met. By properly regulating the blending, the inhibiting effect of hydrogen sulfide, which is created from sulfate in the waste water, can also be reduced.

At this time a 20-meter-high reactor with a diameter of one meter is being operated as a pilot facility. It has turned out to be successful in treating yeast waste water.

Technical, Economic Improvements in Wind Energy Projects

94WS0169C Frankfurt/Main FRANKFURTER ALLGEMEINE 4 Jan 94 p 7

[Text] 1993 was the year of wind energy. The market for this clean and renewable energy source is experiencing a strong boom. According to the German Wind Energy Institute (DWI), the German wind energy park accumulated a total of 100 megawatts of rated output in 1993 (70 megawatts in 1992). One of the reasons for the increase, along with Federal and state funding programs and the selling price of 16.5 pfennigs per kilowatt hour guaranteed by the current input law of 1991, is the clear tendency to build large plants with a rated output of at least 500 kW, now being produced serially by several manufacturers. Experts anticipate that within 2 years at the most windmills with rated output of a megawatt and more will be available in series.

The tendency to larger size has continuously increased the affordability of windmills, according to the rule of thumb, "the bigger, the cheaper." Today it is possible for windmills in windy areas, generally situated on the coast, to produce current at a cost of 8 to 16 pfennigs per kilowatt hour, which is scarcely more expensive than energy from conventional power plants. Armin Keuper of the DWI anticipates that at these sites wind energy plants could be functioning even without state funding within 5 to 7 years at most and be "commercially successful." That is why more and more professional investors are getting involved with wind power along with the communes and associations of environmentalist citizens. Even banks have discovered wind generators as investment possibilities.

The move to larger plants is amazing in view of the fact that at the very beginning a large-scale project which foundered took the wind out of the sails of the wind power movement. The socalled "Large Wind Energy Plant," popularly known as "Growian," was shut down in 1987 after a four-year test run because of technical flaws. After the failure of the three-megawatt generator and the dropping of the project by the disappointed major companies the industry went for small, simple plants, "away from technical development at one fell swoop and towards progress in small steps," as Keuper says. Such steps have brought about the development of wind technology from plants under 100 kW to today's size. Thus energy utilization per rotor surface has doubled over the last 10 years; wind current has gradually become about 30 percent cheaper since 1988. This was also helped by manufacturers' lowering of prices, which was made possible in part by increased productivity in serial production and was partly forced upon them by increasingly strong competition in the marketplace.

Volker Friedrichsen, managing director of the company Vestas Deutschland GmbH in Husum, says, "Technical improvements were achieved with the jump to each new size level because of increased experience." The Danish parent company is the largest international producer of wind energy plants. Their robust construction methods, rooted in agricultural technology, and gradually enhanced by modern technology, is very successful in the marketplace; the proof is the 4,300 wind wheels they have installed all over the world. This has not prevented other manufacturers from looking for success with innovative and technically demanding ideas. These include wind wheels with electronically regulated rotor blade installation for optimal wind utilization, with a variable rotation rate instead of a fixed one, and most recently also with a driveless generator, as offered by the company Heidelberg Motor GmbH in Starnberg or Enercon GmbH in Aurich. Technology pioneers are particularly hoping for greater economy based on higher efficiency from these new developments.

However, this advantage has not yet appeared. So far, in Keuper's professional opinion, there are "hardly any differences" between the plant concepts available on the market in price per kilowatt hour. Other experts point out that for enduring market success the plants have to establish themselves not only in Germany, but also on the world market. Here the traditional plants are considered to be proven, reliable technology. This reputation, which encourages business with the developing and emerging nations as well as with the Eastern European states, still has to be earned by high-tech windmills.

IRELAND

Arguments for Toxic Waste Incinerator Cited

94WN0170A Dublin IRISH INDEPENDENT 10 Jan 94 p 6

[Article: "Pollution—the Burning Question"]

[Text] It is an uncomfortable fact that industry's upside of creating jobs has a necessary downside of polluting the environment.

Because of that discomfort, the issue of how effectively to deal with hazardous toxic waste produced by industry has been fudged by successive governments over the years. Quietly, thousands of tonnes of toxic waste have been dumped or exported both legally and illegally in the absence of comprehensive regulations.

For years there has been talk about a national toxic waste incinerator for Ireland, and in the present decade that talk has become a shouting match. Few issues can evoke such emotion as former Environment Minister Padraig Flynn discovered when he asked DuPont to float a proposal for a 32-county incinerator to be based at Derry. The resulting uproar and mobilisation of protest in the town scared DuPont off the idea and it was shelved.

But the national toxic waste incinerator is back. The current minister, Michael Smith, is known to be four-square behind the idea, mooting it on several occasions before he devoted a three-day conference at Trinity College, entitled *Hazardous Wastes: Options for Management*, to the subject.

Mr. Smith has declared that the incinerator is a nettle which has to be grasped, but that he wants a public debate on the subject before a decision is reached. His main argument is that the dumping of hazardous waste throughout the country in landfill sites is creating "little time bombs" and that incineration is the preferred option in other countries. But environmental groups like Greenpeace claim such facilities could cause cancer and other health complications among people living nearby.

The problem with this particular debate is the dearth of reliable figures which the department itself has admitted.

The most up to date statistics produced by the Government show that there are at least 27 hazardous substances produced in this country by industry and services. They contain variously 14 different properties which make them hazardous, whether they are, for example, explosive, toxic or carcinogenic. The departmental figures also show that 66,000 tonnes of toxic waste was produced. These figures are, however, six years old.

More recent figures are supplied by the Environmental Research Unit. Trouble is, their 1991 estimates put the amount of waste produced at only 36,400 tonnes.

During one of last week's sessions, the minister agreed, following a hasty and frank meeting with environmental groups, that more recent figures would be sought as a matter of urgency before the debate resumed. But even then there is concern among environmentalist that the data, which is supplied under EU guidelines by local authorities, will still not be reliable.

According to senior counsel for one of the environmental groups, many county councils cannot supply comprehensive, up-to-date figures on toxic waste disposal because of lack of funding. "As well as that there are thousands of tonnes of waste which are not accounted for. It is very possible that people are hiding toxic waste and that they won't reveal it unless there is some kind of waste amnesty."

Toxic and Dangerous Waste Disposed of in Ireland

	Tonnes disposed in Ireland	% of waste	% of total generated
Incineration	9,906	18	15
Recycling	31,461	58	47
Chemical treatment	990	2	2
To land	9,536	17	14
Other	2,526	5	4
Total disposed in Ireland	54,419	100	82
Total hazardous waste generated	66,500		

Source: Department of Environment

There is a considerable amount of on-site toxic incineration done in Ireland, 9,906 tonnes in all, according to the Government. Some of it carried out by hospitals to very low standards, according to Earthwatch. Of the 83pc of waste which is dealt with here (the rest is exported, mainly to the UK and Finland), 47pc is recycled, 2pc is chemically treated, 15pc is incinerated and 14pc is dumped in landfill sites.

These figures however, give no indication of the amount dumped illegally. Eolas have reported that between 4,000 and 5,000 tonnes of toxic chemical wastes disappeared between 1985 and 1989. No-one knows where these may have gone but they probably ended up on waste tipheads or in the sea. A report by the International Council for the Exploration of the Seas in 1988 revealed severe heavy metal contamination in an area off Howth where Dublin Corporation dumps sewage sludge.

One of the main sources of toxic waste is the chemical industry, a sector nurtured by the IDA and the great white hope for home-based jobs for Irish graduates. As a result of inducements to pharmaceutical industries, Ireland is now the 12th largest producers of pharmaceuticals in the world. But it is an industry which produced heavy amounts of waste: 35,323 tonnes of organic solvents, 12,189 tonnes of chlorinated solvents and 6,305 tonnes of asbestos, in 1988, for example

The chemical/pharmaceutical industry does, according to the Government, recycle large quantities of certain kinds of wastes, such as solvents, both organic and chlorinated. But frequently reclamation is too expensive and difficult, with on-site incineration the main alternative.

Elsewhere, significant amounts of waste are generated by industries involving metal processing, electronics, crystal glassware, aircraft maintenance, optical products, metal products, video tape production and even sheep dips. Included in the global definition of waste there is the cloudy stuff in jars that we all keep in our garden sheds.

The line-up in favour of a national incinerator includes the Government and an array of business organisations, both large and small, with IBEC at the forefront. Brian Leech, an engineer at the Department of Environment, argues that an incinerator would be subject to a strict EU directive limiting

air emissions and the type and quantity of waste disposed of, and would be further subject to regulation by the recently created Environmental Protection Agency.

IBEC argues that incineration at home is preferable to export for incineration and the creation of special landfill sites which will just "lock [the waste] away underground where it remains a problem for future generations."

According to Matthew Moran, director of industrial policy for IBEC, the amount of air emissions from a national incinerator would actually be less than domestic fire and vehicle emissions from an estate of 200 houses.

The anti-incinerator stance is based on both economic and health considerations. Greenpeace warns that an incinerator would be flagged on the front of IDA brochures for foreign investors, and that a study of Germany showed that women living near such facilities had higher levels of dioxins in their breast milk than those living elsewhere.

Patricia McKenna, of the Green Party, warns that dioxins emitted by incinerators could cause cancer, miscarriages and genetic disorders.

The main argument by environmentalists is that waste reduction and even elimination should be preferred over waste incineration. Although IBEC recognises the economic benefits of waste reduction, it is unconvinced that promoting it does away with the need for an incineration facility.

According to David J. Lennet, a U.S. environment attorney attending the Dublin conference, there is a well established hierarchy of options for waste management with reduction at source, recycling, and treatment at the top of the hierarchy.

"In the United States there is a move to push priorities as high up the hierarchy as possible. Incineration is generally low down on the totem poll. At the same time there is an economic payback with treatment and recycling whereas there is none with incineration."

But Lennet's principle argument is that before any of these considerations are dealt with, information must be freely available. While not even the Irish Government knows for certain how all the toxic waste in this country is dealt with, the debate about information on toxic waste, says Lennet, ended in the US 15 years ago.

"The Freedom of Information Act brought in then meant that all the relevant information was freely accessible. Every document relating to toxic waste is publicly available whether the waste is generated by government or industry and is compiled in a biennial report published by the US Environmental Protection Agency. Yet in Ireland, for many people, today is the first time this information has been heard."

"If there is to be any semblance of trust then things must be put on an equal footing so that the strengths and weaknesses of all the arguments can be explored."

Whether or not the authorities make a better play at informing the public, the row about the incinerator will gather steam. A sum of £40m has been allocated for waste facilities, including a toxic waste incinerator, under the National Development Plan, and it has already been suggested that a site for an incinerator could be chosen at Cork Harbour or Shannon Estuary. But once the Government makes up its mind, and if it chooses to ignore the environmental and health arguments, then, given the experience in Derry, the issue will move out of the rarefied halls of academic debate—and on to the streets.

NETHERLANDS

Biological Degradability of Polymers

BR0302093394 Rijswijk POLYTECHNISCH WEEKBLAD in Dutch 17 Dec 93 p 5

[Article by Gerard van Nifterik: "The Problem Of 'Biodegradability'. Materials And The Environment."]

[Text] An increasing awareness of the environment has resulted in research being instigated into new and environmentally friendly materials, such as biodegradable plastics. Initially the creation of these biopolymers was held up by various different problems, but at the same time essential basic knowledge was being acquired and the 'biodegradable' phenomenon has recently been defined in a better way than ever before. In other words, biopolymers are well on the way to full development.

In the meantime, various 'biodegradable' plastics have appeared on the market which have been evaluated too light, such as those mixtures which were often blends of polyethylene and modified starch. They were sold under the principle of environmental friendliness, but in fact they were worse than traditional plastics. Micro organisms only break down the starch component, while the polyethylene fragments are diffused directly into the environment. There they are digested by birds, which are often unable to survive such a diet. All of this has done perception of the environmental character of biological plastics no good at all.

"It has been a very good learning experience," said Dr. Bert Tournois, divisional head of the Agrotechnological Research Center, ATO, in Wageningen. "If a plastic is being marketed as biodegradable, then the polymer really does have to be biodegradable." According to Tournois, this means that it is highly necessary to be able to define biodegradability in one way or another. That, therefore, has been one of the subjects into which ATO has been carrying out research.

Biological Breakdown Test

ATO-DLO [Agrotechnological Research Center-Division Agricultural Research] has been very involved over the last few years researching pure biopolymers, particularly in connection with modified starch. In the first instance, the relationship was examined between a specific modification to the starch molecule and the final quality of the plastic. This research is progressing well, and ATO now has at its disposal a form of structural properties sample card. The result is that by means of specifically aimed modifications in the structure of the starch polymers, the properties of the bioplastic can be chosen very precisely. This involves characteristics such as brittleness, strength, elasticity, water attraction and repelling features, and so on. According to Tournois, "One of the most important properties in these

new materials is, of course, their biodegradability, and this property had in fact not been properly defined until recently. A great deal of progress has been achieved in this field in recent years."

ATO has developed a number of tests in which the biological breakdown can be determined, a package which is not only applicable to bioplastics but is also of interest for a wide group of materials, ranging from paper and wood to adhesives, rubbers, and coatings. A biological breakdown test for solid components appears, in fact, to have been a gap in the market. Until recently there had been standardized methods for liquid waste matter, but not for solid materials. Above all, what exactly is 'biodegradability'?

As Tournois explains, "If something dissolves, it doesn't necessarily mean that it is also biodegradable. The easy tendency is to say that biopolymers have been biologically broken down when you can no longer see them. That is not the case. We feel that the biological breakdown needs to be described as a chemical change which is initiated by a biological activity."

Breakthrough

ATO has therefore made an inventory of the tests which existed previously, and afterwards started considering what a standard test for bio-destruction should be like. In particular they have sought contact with standardization bodies such as the European CEN [European Committee for Standardization], and the Dutch Standardization Institute, NNI. These efforts have led to a number of standardization tests for four different features: anaerobic or aerobic, wet or dry. ATO has in the meantime made these tests commercially available, and according to Tournois there is great interest, not surprisingly. Following the problems that occurred with the first so-called 'biodegradable' blends, it is now of vital importance that the term should be given real meaning. Using a standardized test, business, industry, and materials developers will be able to work out how their new product can be broken down by micro organisms, even under which circumstances and within what time scale. A breakthrough, Tournois feels.

Outstrip

The perception of the relationships between structure and properties, and the development of a standardized biological breakdown test, have brought the introduction of more and improved bioplastics closer. That means, however, that research into polymers is still moving rapidly. In fact the biopolymer technicians are rapidly overtaking the petrochemical polymer technology. Whereas the conventional plastics industry can rely on more than 40 years' experience, the bioplastics industry is still at the crawling stage. However, the catching up is taking place very fast indeed, not in the least because much of the groundwork has already been covered by the petrochemical industry. Meanwhile, various bioplastics have been developed, such as [polyhydroxyalkanoaten] polyhydroxyalkanoates (PHA's), of which polyhydroxybutyrate (PHB) is the most well known. They are produced by micro organisms which store the polymers in the shape of little balls within the cell. By adapting the process and by choosing a specialized breeding ground, it appears to be possible to let bacteria produce certain PHA's more or less 'on measure'. These so-called fermentation polymers are still very expensive, despite the fact that the price per kilo has dropped over the last few years from about 60 Dutch guilders to around 10 guilders.

Another category covers polylactids or polylactic acids. Initially this advanced degradable plastic seemed to be far too expensive, and it was used primarily for medical applications, such as surgical stitching thread. It now seems possible to produce it at a much cheaper price, by withdrawing the lactic acid raw material not from sugar, but for instance to prepare it from potato waste or from whey. A further cost reduction appears possible as a result of increasing the production capacity. In the meantime there are a number of relatively large installations in operation in the United States and Japan (see POLYTECHNISCH WEEKBLAD Number 45, 1992). Such installations can now produce the polymers for approximately 5 guilders per kilo. Protein plastics, such as gluten, can cost even less and the same applies to modified starch polymers, the price of which is expected to be not much more than that of polyethylene.

Biopolymer Center

The biopolymer industry is at the starting line and the first products are already on the market, such as shampoo bottles made from PHB and French fries bags created from modified starch. On the research front, too, work is being done on biopolymers, for instance at the Universities of Twente, Leiden, Utrecht, Groningen, Eindhoven's Technical University, and naturally in the research institutes, not least at ATO-DLO in Wageningen.

Recently an official center for biopolymers was set up at ATO, where centralized research is being carried out into some eight or nine different biopolymer types. It is a relatively large and excellently equipped center, in which around 60 researchers will be working. The new center is not intended to remain a purely national concern. According to ATO, the institute must achieve international status.

Membrane Absorber Removes SO2 From Waste Gases

BR1602152594 Rijswijk POLYTECHNISCH WEEKBLAD in Dutch 31 Jan p 1

[Unattributed article: "Membrane Absorber Removes SO2 From Waste Gases"]

[Text] The TNO [Netherlands Organization for Applied Natural Science Research] has developed a membrane absorber which removes 95 percent of the sulphur dioxide from waste gases, as became clear from tests in the potato flour plant Avebe. The collected sulphur dioxide can be recycled. A membrane absorber is a device which brings gas in contact with fluid. It consists of a series of hollow fiber membranes, through which a fluid passes. The noxious fumes flow on the surface of the fibers, with some being absorbed by the fluid. In the membrane absorber, the stream of fumes is crosswise to the stream of fluid. The advantage of this is that the reduction of pressure is small and the unwanted oxidation of sulphite to sulphate is low.

UNITED KINGDOM

Brazil To Return Three Hundred Tons of Toxic Fertilizer

94WN0149A London THE DAILY TELEGRAPH in English 27 Dec 93 p 6

[Article by Charles Clover, environment editor and William Vanvolsem in Rio de Janeiro: "Brazil To Send Back 300 Tons of Toxic 'Waste'"]

[Text] Brazil is returning to Britain 300 tons of toxic materials exported by a British firm as fertilizer.

The consignment of copper and zinc, described on import documents as "micronutrients for use as a fertiliser," was impounded by the Sao Paulo State Environment Protection Agency and found also to contain the poisonous metals arsenic, lead, mercury and cadmium.

Copper and zinc could be used in minute amounts to enrich tropical soils deficient in trace metals.

Produquimica, the Sao Paulo fertilizer company which received the shipment, said it was supplied by the Islington firm, London Metals.

The Warwickshire Waste Regulation Authority said the cocktail of metals involved were capable of poisoning people, plants or animals.

The environmental group Greenpeace said the materials, regardless of how they were described, were waste, because they were the residue of an industrial process.

They are seeking to hold up the incident as an example of the legal loophole under which toxic waste, properly described, may be exported to Third World countries for "recycling," though exports of waste for dumping and incineration are banned.

The company which supplied the material to London Metals, Metallic Extractors of Water Orton, Birmingham, describes the material as a "standard product" controlled under regulations governing the recycling of metals.

Metallic Extractors confirmed the material included lead, cadmium, arsenic and mercury in small quantities and that it had supplied a complete analysis of the product with it. The company said it did not know the material was going to Brazil. London Metals refused to comment.

Jose Roberto Falconi, regional director of the Agency, said: "The material was being shipped back yesterday on our orders after tests showed it did not fulfil import requirements."

At the least, say industry sources, the incident proves that the legal definition of what constitutes waste is far from clear. If the material is legally found to be technically waste, it could yet be proved that London Metals should have had different export documents.

The Department of the Environment is investigating the incident.

Computer Model Predicts Spread of Nuclear Leaks, Pollution

PM0902120094 London THE DAILY TELEGRAPH in English 9 Feb 94 p 16

[Report by science editor Roger Highfield: "Sellafield: Who Is Hit If the Worst Happens?"]

[Text] It hasn't happened yet. But should an accident occur at Sellafield, the nuclear reprocessing plant in Cumbria, the path of a radioactive cloud across Britain can be plotted instantly.

The hypothetical "footprint" of pollution caused by a leak and borne on prevailing winds can now be predicted using a computer model. And a couple of days can make all the difference between radioactive fallout spreading over Scandinavia, or falling in Britain's back yard.

A small-scale version can also reveal how the location and height of a smokestack at a chemical plant affects local pollution. "We could predict five days ahead when there will be a problem with a factory," said Robert Chadwick, environmental product manager at the Meteorological [Met] Office, which has developed the model.

The Met Office hopes to use the model, which can incorporate weather forecasts, as a tool to predict air quality, such as the risk of ozone or nitrogen dioxide pollution under certain weather conditions.

When the Met Office unveils its new generation of computer models next month, Whitehall, local councils, pressure groups and environmentalists are expected to show interest in the predictions, which can be produced for as little as 250 pounds.

The Government will rely on the computer model to highlight areas at risk from acid rain across the globe and to predict the fallout in the event of a catastrophic nuclear accident.

The Met Office's Nuclear Accident Response Model has shown, for instance, that the radioactive plume released by a nuclear accident is diluted more during a hot day in summer than a cold night in winter. The distance the plume of radioactivity travels can depend on the presence of a faster, mobile, nonturbulent layer of air above the explosion. At night, the cool still air can make this layer a few metres thick, while it could be as much as a mile on a summer afternoon, enabling the plume to travel a long way.

The model was developed in the wake of the world's worst nuclear accident at Chernobyl, in 1986, when it became clear that there was a need for a way to assess the risks to the public created by an airborne plume of radioactivity. A smattering of dots moving across a computer screen can aid crisis management by showing how radioactivity spreads, or the effect of smoke sent up by a major fire or volcano.

"Just select your accident and we can forecast the effects," said Roy Maryon, one of its developers.

In the case of Chernobyl, it took a few days before the world was aware of the accident. Now "hindcasts" based on weather patterns can track the pollution over five days from the moment of release .

The computer was put through its paces by Noel Nelson and Karl Kitchen, who helped to develop the model. They

simulated a nuclear accident at Sellafield—site of the western world's worst leak, in 1957, when it was known as Windscale.

They chose two different days last month to stage a hypothetical nuclear accident, and after the computer had processed the relevant weather data it plotted the gradual spread of radioactive particles across a map. Had the accident occurred on January 15, within three days north-easterly winds would have wafted the pollution by turns across southern Ireland, Wales, the West Midlands, the south coast as far east as Brighton, then Devon, Cornwall and the coasts of northern France.

By Jan 18, the winds had turned towards the east. "We see a plume passing across the country to the North Sea," Mr. Nelson said. Had this been the date when a leak began, only the northeast coast of Britain would have received fall-out, while Scandinavia would have felt the effects 48 hours later.

Other computer plots show how radioactivity would have been washed out of the atmosphere by rain, creating distinct areas where fall-out would concentrate. Within 36 hours of the Jan 15 emission, the worst hotspots would have been in northern France, with most of Wales and the West Midlands almost as badly hit.

Mr. Chadwick said he could have done with such a warning in 1986, when he was rained on as Chernobyl's plume passed overhead.

The Met Office's computer model contains details of nuclear plants across the planet. It is also linked to a national radiation monitoring network, called Rimnet, so that its predictions can be checked and refined. A major European experiment, Etex, will be conducted this year to see how well 20 such computer models predict the movement of an inert tracer gas released from Brittany.

The model is already part of the Department of the Environment's emergency plan for nuclear accidents.

Voluntary Recycling Scheme Introduced

PM0802151094 London THE DAILY TELEGRAPH in English 8 Feb 94 p 2

(Report by Charles Clover, Environment Editor: "Shoppers' Levy Planned To Fund Recycling"]

[Text] Eight out of 10 households will have doorstep collections for bottles, cans and paper for recycling by the year 2000.

The scheme, to be funded by a levy of one penny on every 10 pounds worth of supermarket goods, was presented to Mr. Gummer, Environment Secretary, by 28 leading companies yesterday.

It should enable Britain to recycle 58 percent of its packaging waste by the end of the century and is intended to fulfill Britain's commitments under a new EC packaging directive.

The voluntary scheme will be run by a new industry body called VALPAK and will cost nearly 200 million pounds a year. That is less than a tenth of a much criticised 2 billion pounds a year recycling scheme in Germany which Britain has accused of swamping Europe with German refuse.

Mr. Gummer called on leading businesses such as Marks and Spencer, Sainsbury's, Coca Cola, Tesco and Procter and Gamble to draw up a scheme last year.

Yesterday he repeated his threat that legislation would have to be introduced if the plan did not work.

The industry plan, published yesterday, aims to extend doorstep collection and "high-density" bottle and can bank schemes to three million homes by 1996. Mr. Mike Clasper, managing director of Procter and Gamble and head of the Producer Responsibility Industry Committee steering group which thought up the British scheme, said the voluntary plan offered "real benefits for the environment at little cost to consumers."

Mr. Gummer said that Britain was obliged to meet EC targets which require the recovery of 50-65 percent of packaging within five years.

"I made clear when we invited the packaging industries to produce a plan last year that the alternative to an industry-led scheme would be Government action, which was likely to be more costly, more onerous and less to the liking of industry," he said.

"I repeat that message today—'doing nothing' is not an option. I therefore urge all companies who make, use or sell packaging to participate in discussions on the plan during the next two months."

"As I said last July, we are quite prepared to move towards a legislative approach if need be, though we prefer the voluntary route."

As Mr. Gummer welcomed the plan, industry sources reported that furious disagreements broke out between the 28 firms involved in a last-minute meeting on Friday. Procter and Gamble and Coca Cola are understood to favour more collecting from doorsteps, as they have done at a pilot scheme at Shoreham-by-Sea in West Sussex, while other companies favour concentrating on bottle banks and paper igloos.

One industry source said: "This scheme is a mess. We are now at five minutes past midnight and we're still all over the place."

A press conference at which the Producer Responsibility Industry Committee report was due to be presented to the public yesterday was mysteriously cancelled.

Incpen, the 20-year old Industry Council for Packaging and the Environment, issued a strong statement immediately criticising the voluntary approach adopted by Mr. Gummer, which it said would not compel all industries to participate.

Mr. Peter Davies, chief executive, said: "We support the concept of this scheme but it must be followed immediately by legislation to ensure compliance."

The environmental group Friends of the Earth said that Britain appeared to be doing only the minimum necessary to comply with EC law.

Mr. Benedict Southworth, recycling campaigner, said: "Industry has been unable to agree among themselves, let alone agree on a plan."

New Environment Bill Presented to Parliament

94WN0168A London THE DAILY TELEGRAPH in English 26 Jan 94 p 2

[Article by Charles Clover, environment editor: "Major Warns of Pain in His 'Green' Plan for Britain"]

[Text] The Prime Minister gave warning of "painful political action" to protect the environment at the launch yesterday of a "green" action plan that promises higher fuel taxes and a city curb on cars.

The Government's follow-up to the Rio Earth Summit, an environmental action plan for the next 20 years, runs to four documents—nearly 600 pages, announced by nine ministers in the surroundings of Inigo Jones's Banqueting House in Whitehall.

The most controversial chapter of Britain's *Sustainable Development Strategy*, on transport, says that "costs of travel, particularly costs of road travel, may well have to rise to reflect environmental costs and to affect levels of future demand for transport."

Mr. Major, launching the strategy, said: "Sometimes quite painful political action may be necessary to meet environmental objectives."

He admitted he "did not expect to see people dancing in the street" at the thought of road pricing.

He said that Britain's imposition of VAT on heating and lighting, higher fuel prices and commitment to road pricing had already gone further than most other countries, but denied these would impose an intolerable burden on the economy.

An expansion of nuclear power might be necessary to meet future environmental commitments, he hinted. Alongside the overall environmental strategy, Mr. Major introduced the following documents:

—The UK Climate Change Programme—sets out in detail how Britain intends to meet its commitments to freeze carbon dioxide emissions by the year 2000.

The document shows for the first time that Britain will achieve a reduction in all gases that cause global warming—including methane and CFCs—of five percent. It commits Britain to setting targets after 2000 but not what they will be.

—The Biodiversity Action Plan—sets out 59 specific commitments to protecting wildlife and local distinctiveness.

—The Forestry Action Plan—shows how Britain will increase forest cover.

Mr. Major announced a new panel of five "wise men" who will advise him and monitor progress on "green issues," chaired by Sir Crispin Tickell, warden of Green College, Oxford, an unofficial adviser at Downing Street.

The others are Lord Alexander of Weedon, chairman of National Westminster Bank, Lord Selborne, chairman of the Government's statutory conservation watchdog, the Joint Nature Conservation Committee, Sir John Houghton, chairman of the Royal Commission on Environmental Pollution, and Dr. Anne Mclaren, vice-president of the Royal Society.

Mr. Gummer, Environment Secretary, announced that the Government would be setting up a Round Table on Sustainable Development which would bring together industry, local authorities and environmentalists to discuss environmental policies.

The Government also intended to stimulate a new "citizen's environmental initiative" in consultation with local authorities, churches and community groups.

Mr. Major's initiative received a chorus of criticism from Opposition MPs and environmental groups. Mr. Chris Smith, Labour spokesman for environmental protection, said the four reports contained "no vision and few firm commitments to action."

The Liberal Democrat environment spokesman Simon Hughes said the key Strategy document was "full of 'coulds,' 'ifs' and 'maybes' when what the country needs is 'whys,''whats' and 'whens.'"

The Green Party complained the Government "lacked the courage of its convictions" and the World Wide Fund for Nature described the announcement as "a lost opportunity."

—An entire protected meadow famous for butterflies will be destroyed as part of a project by British Coal to extract three million tons of coal from an open-cast site.

West Glamorgan county council yesterday approved an application to develop open-cast mining on 800 acres of hillside above Glynneath, West Glamorgan, over nine years which will create about 140 jobs.

Beaches Said Polluted by Foreign Rubbish

94WN0169A London THE DAILY TELEGRAPH in English 25 Jan 94 p 11

[Article by A.J. Mcllroy: "Beaches Left Polluted by Rubbish of 28 Nations"]

[Text] British beaches are being polluted by waste dumped illegally from shipping traced to 28 different countries, according to the Marine Conservation Society.

Many stretches of coastline were in a "scandalous" state with tons of debris and sewage-related waste strewn around, the society said yesterday.

Typical of items dumped by passing shipping were aerosol cans and a log book of shipping channels from Germany; a milk carton from India; a shampoo bottle from Japan; two batteries from Poland; a plastic sauce bottle from Spain; a drinks container from China, and a large plastic drum, margarine tub lid and plastic bottle from Holland. "All the

items had their own language on the debris, ruling out the possibility the items had been bought and disposed of in the UK," the society said.

The society was reporting on *Beachwatch '93*, a clean-up operation of 121 beaches it launched last September with *Reader's Digest*.

"The major source of plastic waste was from shipping," said Miss Cait Loretto, marine science officer with the society. "This shows that existing legislation is not only ineffectual but is also being widely ignored."

"The maximum fine for catching an offender is £450 in the UK. In the United States a cruise liner was recently fined more than £200,000 for dumping plastic—now that is something like a deterrent."

She said the Environmental Protection Act 1990 put the onus on local authorities to keep public places up to a certain standard of cleanliness—a standard many beaches failed to meet.

"Some beaches are regularly cleaned from May to September but this still fails to ensure that the majority are free from litter."

The findings of *Beachwatch '93* are based on the results of the clean-up campaign during which more than 1,000 volunteers cleared 33 tons of rubbish from 121 British beaches.

A total of 114,880 items found included 51 percent made of plastic "providing a real threat to marine life." Eleven percent were sewage related, among them condoms, tampons, panty liners, cotton buds and nappies.

The society said it wanted to put pressure on the Government for better legislation, better disposal facilities and better sewage treatment "so our beautiful beaches can be made safe and pleasant for all."

Expert Criticizes Environmental Record

94WN0163A London THE DAILY TELEGRAPH in English 24 Jan 94 p 1

[Article by Charles Clover, environment editor: "Government's 'Green' Record Is Attacked by Its Own Expert"]

[Text] The Government's "green" economics guru broke ranks yesterday to attack its environmental record, criticising the £23 billion road-building programme and failure to control traffic growth.

The attack by Prof. David Pearce, proposer of the Government's "green" taxes on fuel, will cause embarrassment on the eve of the Prime Minister's launch tomorrow of environmental strategy for the next 20 years.

Prof. Pearce will publish research this week showing that the £15 billion raised from road taxes each year is dwarfed by £25 billion in "social costs" of road use—noise, pollution, wear and tear on roads, congestion and accidents to pedestrians. If the motorist was to pay the real cost of using a car, he said, road taxes would need to be nearly £10 billion more, nearly double what they are now.

Prof. Pearce, adviser to former Environment Secretaries Patten and Heseltine, says his research demolishes the argument of lobby groups such as the AA and RAC that motorists get "a rough deal" because he pays £15 billion a year in tax and only £6 billion is spent on road building.

"We have done something that the Department of Transport should have done. If they did their sums properly we wouldn't have such a rosy picture of the benefits we get from the roads programme," said Prof. Pearce, head of environmental economics at University College London.

"If you were to start to charge for using the road, you would need to charge the motorist for the pedestrians killed each year and the fact that he causes congestion to someone else."

"Similarly, no one currently charges the motorist for the social cost of the nitrogen oxides and the carbon dioxide that his car emits."

Prof. Pearce, who sits on two Government advisory committees, says the Government's proposals for motorway charging, aimed at raising money to spend on roads, do not go far enough to stop escalating traffic growth.

He said: "I'm highly sensitive to the argument that giving a higher priority to protecting the environment would cost industry money. But the Government has done no work on how much it would cost, or how it could be paid. It has simply dropped the idea."

"I believe that this change can be engineered to be good for the individual, good for the country, good for economic growth and good for the environment."

He said his attack on Government policies arose from "sheer frustration." He had "finally run out of patience" after five year of working with Government.

"We've all been extremely fair to them, addressing our criticisms internally. I remember saying when I got a copy of that White Paper, 'Is this it?' It was all the repackaging of old policies."

"There was nothing new and no imagination. I expect the Sustainable Development Strategy, which Mr. Major publishes this week, will be exactly the same thing."

Prof. Pearce reflects the frustration of a mounting number of the Government's closest advisers who feel that Mr. Major's Government has promised to use market incentives instead of regulation to address environmental problems, but has held back from introducing measures such as motorway charges and landfill taxes to back its convictions.

He is critical of leading civil servants, whom he accuses of having "a vested interest in not upsetting the applecart."

"Somewhere along the line we've run out of imagination. And nothing has been helped by Downing Street," he added, in a veiled reference to Mr. Major.

Prof. Pearce's new book *Blueprint 3: Measuring Sustainable Development*—a follow up to *Blueprint for a Green Economy* commissioned by the Department of the Environment—contains the first account of how in the 1980s Britain was living on capital rather than new income.

He looked at the five percent savings made nationally in the 1980s and subtracted the depreciation of assets such as North Sea oil and gas reserves, the increase in pollution and the loss of recreational opportunities through new development.

He found Britain was using up capital faster than it was generating income from economic growth. "What tips us into the red is the failure to take account of the environment," he said.

Draft Paper Shows Problems With Traffic Growth

94WN0164A London THE DAILY TELEGRAPH in English 22 Jan 94 p 6

[Article by Charles Clover, environment editor: "Ministers Fight Uphill Battle on Car Fumes"]

[Text] A leaked draft of Britain's environmental strategy for the next 20 years shows that traffic growth will have a steadily worsening effect on the quality of life.

Traffic emissions are "major challenges" to the Government's attempts to reduce climate change and to improve air quality in cities. An increase in vehicles will damage nature sites and create unacceptable noise levels.

The draft transport chapter of the UK Strategy for Sustainable Development is frank about the negative effects of the projected doubling of traffic growth over the next 25 years. But it is likely to disappoint environmentalists because it contains no new transport policies to curb road traffic or promote public transport.

The document, drawn up as Britain's contribution to carrying forward the aims of the Rio Earth summit, warns that travel costs "may have to rise further to reflect environmental costs and to affect the future demand for transport." But it says there will be public resistance to this.

The near-final draft of the report, to be launched by the Prime Minister next week, shows that Mr. MacGregor, Transport Secretary, and Mr. Gummer, Environment Secretary, disagreed over the need to accommodate traffic growth.

Amendments and deletions by Mr. MacGregor show the Transport Department at pains to excuse and justify its policy of building roads to meet demand.

There remain some strong statements, such as: "It is clear that traffic growth in certain parts of the country, and on certain assumptions, would produce unacceptable economic and environmental consequences."

It is the lack of any conclusions which measure up to this striking analysis of the problems posed by traffic growth that is likely to invite criticism on Tuesday when the strategy—which covers every area of Government from energy to agriculture—is launched.

The strategy points out that technical innovations in engines, catalysts and fuels will not be enough to temper the increase in pollution. It says the benefits of catalytic converters will be short-lived as traffic growth overcomes initial gains in air quality.

It says the Government is also likely to have to take action to limit carcinogenic substances in petrol such as benzene.

It also points out that transport creates water pollution, a mountain of 20-30 million used tyres each year and that road building, even at present rates, accounts for 32 percent of the sand and gravel quarried.

The document's conclusion is a call for more public information, further research and for local authorities to develop clear environmental targets and criteria.

Environmentalists said the emerging evidence of what the environmental strategy contains showed a chance to change policies into the next century had been thrown away.

Miss Fiona Weir, of Friends of the Earth, said: "The Government has admitted that traffic growth is a massive problem but then they throw their hands up in the air when it comes to doing anything about it."

Global Positioning System To Track Radioactive Sheep

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[Report David Brown: "Satellite to Track Sheep in Hunt for Radiation"]

[Text] Scientists have harnessed space technology in an attempt to rid sheep in the United Kingdom of radioactive contamination from the Chernobyl disaster.

About 500,000 sheep in Scotland, England, Ireland and Wales are still affected by the fall out from the 1986 explosion.

They plan to fit transmitters to scores of animals so they can be tracked by satellite wherever they are on the remote hills and moors. Each back-pack strapped to the sheep contains a microcomputer, transmitter and receiver.

The packs not only record the sheep's exact position but also every jaw movement. Researchers can tell when the animals are feeding and when they are simply ruminating. The aim is to find the remaining "hotspots" of radiation.

More than 500 UK farms are still subject to movement restrictions on their flocks almost eight years after the explosion at the Russian plant.

The worst affected area is Wales where about 230,000 sheep on 340 farms are affected by legislation preventing their meat from being sold until they have been checked by government scientists .

Many sheep, even those born long after the Chernobyl disaster, are still eating radiocaesium in vegetation growing on contaminated soil.

Now, after successful trials with a satellite-based Global Positioning System developed for the U.S. Defence Department, scientists at the Institute of Grassland and Environmental Research at Northwyke, Devon and the Institute of Terrestrial Ecology at Merlewood, Cumbria, are ready to tackle the contaminated farms.

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